

# Precision SHOOTING

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*a magazine for Shooters by Shooters*

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## COVER PHOTO

1st Lt. Presley W. Kendall, U. S. Army, National Smallbore Probe Champion. Photo taken 2 minutes after winning the championship at Camp Perry, Ohio.

See article titled "The 1962 National Smallbore Champ" in this issue.

## HERMAN STOLLBRINK

Herman Stollbrink, President of the Metropolitan Rifle League in New York City, died following a heart attack on November 21, 1962.

Though not feeling well at the time, Herman worked at the Fall Individual and Two-Man Team tournament on November 18th, being first to arrive for the tournament and leaving only after all entries were completed. The following Tuesday afternoon he saw his doctor, had a cardiogram and the doctor let him go home. At 3 A. M. he had a heart attack, was taken to the hospital and passed away soon after.

Herman loved competitive target shooting, has for many years been a promoter of it, a competitor and a worker at many matches and tournaments. While not very frequently a serious threat to tournament winners himself, Herman's instruction, coaching and encouragement has assisted many young men to become proficient competitors in both smallbore and high-power rifle matches. His death will be saddening news to his host of friends, many of whom are far beyond the New York metropolitan area.

## VARIETY OF CASES FOR HANDLOADING

Over twenty-eight different caliber unprimed rifle cases, and more than six different caliber unprimed pistol cases are available to handloaders through Norma-Precision.

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In addition, pistol cases covering the most popular calibers, as well as the calibers most commonly used on ranges are listed by Norma.

Even the new .308 and .358 Norma Belted Magnums are available to handloaders.

For more information, write to: Norma-Precision, South Lansing, New York.

## AUSTRALIAN SHOOTERS' MAGAZINE

Until quite recently there has been no magazine in Australia devoted exclusively to guns and shooting. There have been several general sporting magazines, quite similar to our U. S. sporting magazines. We have seen at least three of these magazines and receive one regularly on exchange. The one we see regularly, "Australian Outdoors," seems to be representative and in our opinion a little the best of the ones we have seen. Like our own sporting magazines, the Australian magazines contents are mainly for the hunter and fisherman, with the fisherman getting a little the best of it. But each of the magazines does have some space devoted to guns and shooting; usually a question and answer section, reports on new products and one or more articles dealing with shooting matters, both hunting and target shooting.

Some eight months or so ago a new magazine, "Sporting Shooter," devoted entirely to guns and shooting, made its appearance. It started as a quarterly issue (once in three months) but, apparently due to its popular reception, has now been stepped up to a bi-monthly issue.

In spite of handicaps of supply, Australia seems to have a growing number of handloaders, and also its fair share of wildcatters. In the relatively short time we have been seeing the Australian magazines it has been interesting to note the growing number of firms in that country which are now manufacturing firearms, ammunition, handloading equipment and shooting accessories. Some less dependence on imported supplies must be both welcome and helpful to the Australian shooting fraternity.

In the latest Sporting Shooter received we noticed an advertisement of a case trimming tool which is claimed to be "cheaper and better than similar American products" and the same firm also advertised a powder dripper which is very similar to Ted Smith's famous "Little Dripper."

During the past year one of the leading sporting magazines sponsored the first national postal type competitive shooting program, with witnessed shooting being on the competitors' home ranges. The competition was open to both Australian and New Zealand shooters. The program provided competition in various positions and for both center-fire and .22 rim-fire rifles. The program had the backing of the shooting "Trade," which donated a valuable list of merchandise prizes. There was a large entry of competitors and the project was considered very successful by all concerned.

More recently the Sporting Shooter has inaugurated a 10-shot minute-of-angle group program with recognition awards, quite similar to the program sponsored by our Sierra Bullets, Inc. It is known as the "Minute Man" program. The first minute-man award winner was Ron McDonald of Brisbane, Queensland. He shot a Sako .222 Magnum fitted with a 6X Pecar scope and used a handload of 60 gr. SP bullet ahead of 25 grains of 655 ball powder and CCI primers.

With the growth of handloading and interest in accuracy shooting "Down Under," it may not be too long before our NBRSA should start watching its step in claiming "world records" in bench rest shooting and make sure that they are "world" records. I feel sure, though, that our "stool shooters" would welcome worldwide competition.

P. H. T.

## THE 1962 NATIONAL SMALLBORE PRONE CHAMPION—A PRECISION SHOOTER

By Betty Summerall Duncan

Have you ever considered that the National Champion has an obligation to be an active champion, rather than merely a figurehead? It is within his power to inspire lesser shooters, to share the secrets which have cemented his success, and to stimulate more enthusiasm in the shooting game generally. It takes a real champion to accept this obligation seriously and to be unselfish to the extent of revealing his special techniques. Such a champion is 1st/Lt. Presley W. Kendall, USA!

I believe that destiny decreed sixteen years ago that Pres would one day rise to the heights of number one smallbore shooter in America. Since he was a ten-year-old lad, he has exemplified those traits of determination to win so essential to the development of a champion. Even at that age, he took his shooting seriously. He used to fly down to Chattanooga alone for tournaments, where the older shooters delighted in meeting his plane and in looking after the youngster who would show many of them up on the firing line. When he made Master at the age of thirteen, he was the youngest shooter to ever attain that classification. He was a firing member of the 1953 Pershing Trophy Team when he was seventeen, and the following year became National Junior and Collegiate Champion. Pres has been a member of seven International Dewar Teams.

Aside from this bit of background, our purpose is not to elaborate on Kendall's extremely impressive record of shooting triumphs. That phase has been adequately covered. We would like to introduce him to you as a personality, in relation to his methods of winning tournaments.

Before delving into the technical side, it seems a propitious time to mention that before graduation from the University of Tennessee in 1958, he was selected for "Who's Who Among American Colleges and Universities." Let me emphasize that his shooting ability was not a consideration for this honor. He majored in Finance, taking additional courses in political science, accounting, and law. He also led a political party on the campus.

His collegiate history has a direct bearing on his approach to shooting, which is essentially intelligent and scientific. He has experimented with and learned a great deal about building accurate .22 target rifles. Pres has enjoyed building rifles for several of his friends, and, being a Kentucky gentleman, included some leading lady shooters in this number. He gives freely of what he has learned. If it falls on deaf ears, he has no concern for them.

He glass beds his rifles the full length of the receiver and 3½ inches under the barrel, just in front of the receiver. He feels that some sort of bedder is definitely necessary, to reduce barrel vibration. "In all probability, the smart use a 4-point bedder of some sort. I got around this by putting glass under the barrel, just short of the fore-end. Then, putting rubber electrical tape on top of the glass, under the barrel, the barrel is dampened."

A factory stock is rather thin for this technique, and Pres considers that a thick, laminated walnut stock is required. In between matches, he keeps the action screws very loose, to prevent stock warpage. His stock, which is his own handiwork, is made up of laminated walnut, glass, rubber, and painted leaves (done by Kris Sundstrom of Glen Ridge, N. J.), to make the "ugliest rifle on the line," as intended.

His prone championship combination is a Canjar-triggered high serial numbered Remington-37, with a prime Hart barrel, and Redfield International front and rear sights. To avoid changing the cheek pressure on the stock, he uses two Redfield front sights, of different heights; therefore, not changing the receiver sight's elevation. Being suspicious of the warpable plastic inserts on the International fronts, he has made some metal inserts for the Int., similar to the Olympic inserts.

He feels that a large aperture, or a post, should be used in all positions, except prone. Due to the steady hold, he prefers as small a front aperture as possible in the prone position. His corresponds to the smallest in the Olympic aperture set, which gives but a slim line of white around the bull. He uses a smoke-colored rear lens for light control of glare in his iron sight, as well as a diaphragmed variable iris.

His rifle scope is a 15X Lee dot, of medium size, in a Lyman Super Target-spot. "People using much more than this are mistaken. Mirage blurs their aim. In a heavy wind their hold is poor, thereby reducing concentration and causing fear." . . . Now we come to my pet theory that champions become such only if they have confidence in their ability. This is not conceit, but merely an expression of that self-confidence so necessary in the ascension to the top. Kendall is convinced that he can hold steadier than anyone else in the country, being able, usually, to hold on a bullet hole at 100 yds. "If I don't care for a high powered scope, I don't see how others can do better." (Note: George Stidworthy shares this view, and shoots a 12X.)

Pres uses a Bushnell 45-degree angled, 25X eyepiece, spotting scope. It is easy to take apart and clean, and is his most important tool in doping wind. "I've been told that the wind talks to me, and to a certain extent, this is true. By setting the scope off focus, short of the target, so as to barely be able to see bullet holes, I can watch mirage waves pass by in the scope. I shoot only when these waves are passing at the same rate of speed, or click my irons a click or two. When in doubt, shooting a sighter."

Scope shooting is a different story as he rarely holds center. Being cautious, he never holds outside the bull, in case of an error in wind estimate. Keeping a careful check on the mirage through the spotting and rifle scopes, he holds on one side of the ten or the other, to compensate for bullet drift.

"I've developed my prone style to an almost instinctive technique, paying only 25% of my concentration to routine, and 75% of attention and concentration to the wind conditions. Wind doping, the way I do it, as previously explained, gives me the ability to win. Others are either afraid of the wind, try to ignore it, or panic under its influence."

By keeping his rifle butt on his shoulder when loading, he can shoot quickly, firing 20 well-aimed shots plus sighters in 3½ minutes, under good conditions. So, under varying winds, he can catch a good condition and get off several shots.

Like most international shooters, he prefers a leather coat, rather than a cloth coat, for stiffness—no slipping pads—and the padding of pulse and stomach which it affords. It is warm in cool weather and keeps out heat in warm weather. Pres wears three sweatshirts to further pad pulse beat.

"One point that helps me win is a pretty good set of guts. Such wasn't always the case. But, by shooting in many

## STOP GUESSING AT HANDLOADS . . .

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## HUTTON RIFLE RANCH . . .

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matches, I hold up very well under match pressure. I don't become rattled, period. In a prone match, I feel no pressure in smaller matches, like state tournaments and such affairs. This is where many potentially good shooters are ruined."

"Without a good rifle, you're dead! My Hart-37 groups ½" at 100 yds. It has proven this many times. With an average rifle, a shooter is handicapped."

Learning from Anschutz, he had his 37 dummy clip cut off flush with the receiver bottom, and pinned to the receiver—then, drilled for an action screw. Using both action screws forward, the rear half of the receiver is left without bow, or strain, which could cause less accuracy.

"I quit using Mark III. It eats and erodes barrel chambers, sand blasting with each shot." He went to Remington Match three years ago and has five National Records and three National Match Records with it. "It doesn't damage barrels. Some say it won't buck wind." But—those who tried to stop Kendall the last day at Perry with 30-40 m.p.h. gusty, switching wind know better.

Pres is feeling a bit ashamed of his stock. Hart is barreling up a second 37 for him, and The Champ intends to make it and the stock look respectable. He has turned down a \$500 cash offer for his present rifle. It has a price, though—\$31,000! This is typical psychology of those who do not wish to sell. And, we can't blame him, for this prize-winning rifle must mean a great deal to Kendall.

His position rifle is an Anschutz Super Match Model 54 Free Rifle. Pres considers the Anschutz an extremely accurate rifle, being flexible. "It is a simple matter to put in a single heavy trigger for NRA matches, and a set trigger for free rifle matches. I am currently experimenting with a 2MM post front in positions other than prone. The stock is cast off, or bent to the right in the butt to put head-bending at a minimum in aiming, to prevent strain." This helped him tie "Moose" Pool for the National Smallbore Position Championship, and to make the Cairo team.

A growing sentiment is manifesting itself around the country in opposition to the 3-lb. trigger rule. The rule has merit if it were confined to juniors. When questioned regarding his opinion on this subject, Kendall replied: "A 20-25 ounce prone trigger is fine, and a 2-ounce set position trigger is all that is needed!"

Now, for a "nut-shell" summation of the 1962 National Smallbore Prone Champion's shooting psychology:—"I look at it this way. I've played the cut-throat circuit at Benning, where it is every man for himself among the young lions. Some wishing you well, many ready to cut your throat. This has made me a little bitter, sarcastic and suspicious. So, in a match, I have people wishing me well, and others hoping my gun blows up. Therefore, I am shooting for myself. I have confidence in my own ability, use good intelligence to make quick decisions about match unforeseen conditions. Therefore, I feel that if I do what

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I know I can do, I'll win quite a few times."

Pres is a fine sportsman and a good friend. It was in all sincerity that he wrote the following note to Vic Auer:—"It was a great honor to win the Nationals and to succeed you as King of the hill, and to get your 50 yd. scope record. Now you have something else to come back against." This note has an honored spot in Vic's shooting scrapbook.

Having known Pres since he was 12-years-old, I think that he will forgive my revealing something of a personal nature. Walter W. Kendall, who molded his son's shooting career, was smart enough to know that if Presley's tournament expenses were provided for him "on a silver platter," shooting wouldn't mean nearly as much to him as if he worked to earn the money. So, the youngster diligently set about picking blackberries to pay his own expenses. Consequently, he took greater pride in his shooting. With this foundation and with shooting "in his blood," he isn't likely to desert the shooting game as so many of the "boy wonders" have in the past.

Some of his most decisive victories have been at Knoxville and Chattanooga (where he fired a 3199), near the battlefields where his great grandfather, armed with a Spencer, fought with the Union in the Kentucky Volunteers and was wounded at Lookout Mountain, being shot in the leg.

His father has entertained a secret ambition for many years—that of seeing his son make the Olympic Team. It is one of the few honors which has, so far, eluded Pres Kendall. We are confident that his father's ambition will be realized!

## CASEY HAS STRUCK OUT!

The "Mighty Casey" of the Western Ohio Rifle League "has struck out"! Miami Valley, undefeated league champions for at least the past two years, was beaten by the Annie Oakley club of Dayton in the second any sights match of the current season by a 14 point margin; 1938 to 1924 for the four position team total. The Annie Oakley team also fired highest team score in the first match of the season, a 1937. R. Miller has been high scorer for Annie Oakley in the first two matches, with strong backing from team-mates I. Grilliot and L. Staley.

Miami Valley also had the pressure put on by the North Dayton team in the first iron sight match of the league season. Both teams fired a 1137 score but Miami Valley had a 15 point higher team offhand score to make the win. R. Wright was high scorer for Miami Valley with 388 and D. Knoop led the North Dayton shooters with a 380.

## MORE ABOUT PRIMERS

By Edward M. Yard

### Experimental Ballistics Associates

The nickel plated caps that ignite our powder charges have come in for a lot of comment in these pages during the last year and a half. Shooters seem to realize the importance of this component, and the writer as much as anyone. This note is intended to pass along some general comment about primers.

In a previous article (P. S. for May 1961), it was recommended that primers be stored in a really dry place. Gasketed glass jars were suggested. And there is no doubt that primers stored in mason jars with a dessicant will not be affected by moisture pick up. However, another factor that you may wish to consider has been called to our attention.

In the event of fire, a glass jar could confine pressure of exploding primers until it itself bursts from internal pressure. The resultant explosion might cause significant damage. We are not reporting a test result, nor do we plan to try to experiment with this sort of situation. We have no idea what the chances are that the glass jar you might use would crack from the heat before the primers popped. Certainly this danger of a jar containing live primers exploding during a fire can be a real one in some circumstances.

This having been called to our attention, is reported to you. Multiple layer polyethylene plastic bags offer a substitute protective covering without the above risk. Since plastic films are moisture repellent rather than waterproof, dual or triple bags are preferable to a single layer. We think this a wise change.

Next, in corresponding with Federal Cartridge Corporation about the effects of moisture upon primers, the following information was forwarded to me from Mr. William N. King, Technical Director:

(Summarizing Mr. King's comments)

Primers stored in a hot dry place, up to 150° F, for a year showed no appreciable effect from this exposure.

Others kept at 120° F and 80%-90% relative humidity and tested weekly for 4 to 6 weeks usually show some change in ballistics. If dried before loading, these primers will return to normal characteristics. Thus the small changes noted were due to the absorption of moisture, and not to a chemical change. Primers when chilled to very low temperatures, and fired cold, will usually produce lower velocity. Their chemistry is not altered.

Under normal conditions of storage in workshops and homes, they have not found that ammunition velocities varied due to primer variations. Smokeless powders, however, were found to be sensitive to variations in the relative humidity, and depending upon the moisture content of the powder, velocity and pressure change.

This information would seem to dispel the idea that primers stored through the summer in the seacoast areas would be damaged by moisture pickup. Even if some change in their performance occurred, this could be cancelled by drying, which restores them to normal. This is encouraging information. It means that primers will need protection from excessive moisture only. Mr. King says that this applies to most primers made in the country today.

In order to check these findings, Federal kindly arranged to ship to me fresh primers sealed in polyethylene bags. These were immediately stored, in their plastic bags, in waterproof, sealed steel tinned cans,

to maintain them just as received for a variety of environmental tests. The first of these was humidity exposure.

One hundred #210 Federal primers were placed in sealed containers at relative humidities of 100%, 95%, 90%, 80% and 0%. These conditions were obtained by placing the primers just above saturated solutions of metallic salts having the desired vapor tension for ambient temperatures of 72° F to 76° F (normal for the test site). With a hundred primers exposed to each condition, ten will be withdrawn and tested from each environment at spaced intervals.

A short while ago the first samples, after 35 days exposure, were removed, loaded and fired through the chronograph. The results will be given in this report. First let us explain the details of loads and tests.

A .30-'06 rifle and cartridges were chosen for these checks, believing this to be the most universally reloaded large center-fire rifle, and thus duplicate what a majority of reloaders might experience had they made these tests themselves. Mr. Homer S. Powley advises me that he has observed that the greatest effect of primers on velocity occurs when the powder to bullet weight ratio is about .20. Therefore 38 grains of #3031 powder was loaded behind full jacketed bullets weighing 169 grains, using all FA cases of '35 lot. Ten rounds with primers from each of the five storage conditions were prepared and chronographed. Charges were weighed, all rounds loaded at one time, and all tested at one time the following day.

As for the results, well, 35 days at 100% humidity hadn't hurt those Federal #210's any. The soggy ones averaged 2175 F.p.s., while the 0% sample averaged 2165 F.p.s. The other samples ranged as high as 2205 F.p.s. for the 80% humidity storage primers, fired last. The dry and 100% loads were fired first, followed by the 90%, the 95%, and then the 80% loadings. There was a slow rise in the average velocity through this string. This can probably be attributed to the fact that a single rifle was used and it inevitably became hotter as the firing progressed. It is clear that humidity had not impaired the performance of these primers.

Exposures will continue until at least a year for these conditions, since nine more ten shot tests can be made. Probably a gradually increasing time interval will be used, so that results for beyond a year will be possible for rather extremes of moisture conditions, from arid to soggy, and that's just the way that box of primers from the 100% humidity felt. It was limp, damp to the touch.

Others of these primers will be subjected to various types of exposures and handling in an effort to find out what their effects are, whether modern primers are affected by things that can happen to them in general use. Some will be sealed up and stored for as long a time as we can manage, to observe just time. Significant results will be reported, but whether a final report will ever be arrived at in something like this, we now don't know.

Up to 35 days in the extreme ends of all possible conditions of wetness has no real influence on the performance of these primers. Their manufacturer, Federal Cartridge Corporation, states that the priming compound is not subject to chemical decomposition as a result of being saturated with water vapor. This is evidently quite correct, as this time is ample for most chemical reaction to take place.

A tabulation of the test result averages follows. Note that the spread in velocity

values is normal or better.

## CHRONOGRAPH TESTS

### OF LOADS

Using Primers Exposed to Various Humidities

(In Order of Firing)

% Hum.	Avg. Vel.	F.p.s.	Spread
0.	2165		40
100.	2175		60
90.	2190		30
95.	2200		25
80.	2205		40
38.0 Grs. 3031—169 Gr. F. J.—.30-'06—FA			
'35—Federal #210			
Average Vel. For 10 Rounds			

## FIBERGLASS JACKETS FOR RIFLE BARRELS

By Lloyd Roberts, M.D.

Polyester and epoxy reinforced fiberglass has been used for some time in rifle action bedding and as a structural component of shotgun barrels. Its principal properties are extremely high tensile strength and elasticity, and the ease with which it can be fabricated. It is also moderately to extremely adhesive, the latter being more typical of the epoxy resin. Thermal stability is good to excellent, epoxies are available which are reputed to be stable to 1000° F. The polyester tends to shrink somewhat with cooling, producing internal stresses, the epoxy does not. They are considerably lighter than steel. With these properties in mind a resin reinforced fiberglass jacket seemed to be the answer to the problem of increasing barrel rigidity and uniformity of vibration with only moderate gain in weight.

The application of a layer of fiberglass cloth and resin around a barrel should have several effects. The vibrations would be altered and quite possibly minimized, particularly by those fibers of the cloth which run lengthwise to the barrel. If the fiberglass were applied with polyester resin the shrinkage around and along the relatively rigid barrel should result in considerable internal stress. This would presumably be increased with the heat of firing and the resulting expansion of the barrel. The circumferential stress might cause some constriction of the bore. The jacket would serve to insulate the barrel from outside heating or cooling, however it might also lead to excessive accumulation of internal heat and resultant erosion.

The following experiment was performed. Raw materials were a Remington A3-03 Springfield with slightly pitted but sharp 4 groove barrel, scraps of 10 Oz. fiberglass boat cloth, and medium viscosity polyester resin. The action was bedded in Devcon plastic steel and the barrel generously free floated prior to fiberglassing. Several 10 shot groups were fired at 100 yards off a sandbag with 1935 F. A. ammunition (which shoots well in other rifles) producing 3½ to 4 inch groups.

The action was chucked in a lathe and a 16 pitch thread cut on the outside of the barrel from the receiver ring to the front sight band following the contour of the barrel. The purpose of this threading was to provide a good longitudinal grip on the barrel for the fiberglass resin. Strips of fiberglass cloth 1½ to 3 in. wide were cut from the scraps. Those cut at an angle to the weave seemed to lay on more evenly. The barrel was generously slathered with resin and the strips of cloth wound on with ½-¾ overlap and considerable but even tension. The lathe was turned over by hand and the resin generously brushed onto the strips as they were being laid on. Three to four layers were applied over the whole



Lloyd Roberts applying the fiberglass jacket to a rifle barrel. Note that the bed of the 1913 South Bend lathe is well protected while this job is being done.

length of the barrel. Then the barrel was rotated slowly on the back gears so that the resin would not drool or become lop sided before it set.

After the resin had cured the semifinished product looked like a bottle brush and felt like a cactus due to the ends of fibers sticking out. The barrel was left in the lathe and a flexible, vixen, auto-body file was used to strike the jacket down to a taper  $1\frac{3}{8}$  in. at the receiver to  $1\frac{1}{8}$  in. at the sight band. A short reverse taper back to the receiver ring was also made. The fiberglass was then sanded and given a coat of aluminum paint to enhance the insulation effect. The greatly swollen barrel and jacket was again free floated. The new structure was now larger than the original forend so the latter was widened and deepened by gluing on more walnut.

Groups from the finished product have run around  $1\frac{1}{2}$  inches (about the author's limit with service sights) fired on the same range, same rest, same ammunition. A box of 1962 F. A. match gave similar results. The first string of rapid fire was undertaken with some trepidation and visions of the jacket igniting from the heat trapped within it or shattering from the internal stress of the heated, expanding barrel, however accuracy and structural integrity were maintained.

The final results were not of bench rest calibre, but neither were the barrel or sights. The experiment does prove that the idea is feasible. It is also a very economical way of converting a military cast-off into a reasonably accurate target weight rifle. It might be useful in the restricted weight classes of bench rest rifles, although the jacket could probably not be considered as a part of the barrel and still conform to dimensional restrictions.

#### Footnotes on Fiberglass

Fiberglass and the resins are not an unmixed joy to work with. Polyester has a strong odor and should not be stored near food. It is somewhat unpredictable. The polymerization is greatly accelerated by small increases in heat, i.e. one's fingers on the can full of mix, and by the sun or other ultra-violet light. The resin promptly gels on the hands and becomes incredibly sticky. Sanding or filing dust is the world's worst itchnig powder, and it should not be inhaled. The cloth, which has a rather seductive sheen and texture, sheds small fragments of fiber which again itch. However all these drawbacks are more than offset by the remarkable qualities of the finished product and the minimal skill and tools needed to achieve it.

Lloyd Roberts, M.D.  
Argilla Rd.  
Ipswich, Mass.

#### SPEER "TARGET-38" AMMUNITION

We are informed that the Speer TARGET-38 reloadable plastic cases and bullets for indoor short range shooting in .38 caliber (.357) handguns are now being distributed to the trade. If your dealer hasn't yet stocked them he can get them for you.

Though designed for indoor shooting (even in living quarters) at short ranges (25 feet or less), the TARGET-38's are not playthings. At actual muzzle velocity of 500 to 600 fps (depending on primer used), the plastic bullets can cause bodily harm at range of 75 feet. But a simple bullet trap consisting of a paper packing carton with old turkish toweling or similar material suspended from a dowel rod a few inches be-

hind the target stops the bullets and prevents damaging for further use.

Reports we have had from shooters of competitive ability who have tested the TARGET-38's indicate that accuracy is excellent enough to make this ammunition really worthwhile for daily pistol practice in the home.

The ammunition is economical. According to individual users' reports, as well as manufacturer's claims, both the cartridge cases and bullets may be satisfactorily reused 20 or more times. The plastic cases and bullets are packaged separately in boxes of 50 and the cost is \$1.50 per box for each. Since only a large pistol primer is used for propellant, the only other component cost is for the primers. No loading tools are needed for reloading. According to our calculation the cost per shot should be less than .22 rimfire ammo.

Field testing by individual shooters prior to general distribution uncovered a few "Bugs" in the ammo, chiefly misfires with some primers and some splitting of cases (although it was found that the cases were still reusable after splitting). Additional research by the Speer Products Company confirmed these findings and the Company now recommends that only Winchester #111, Remington #2 $\frac{1}{2}$  and CCI #350 Magnum primers be used with present production TARGET-38 cases.

The misfires were found to be due to primer sensitivity. Revolvers with a light hammerfall just don't ignite some brands of primers. Tuned target guns would probably be such offenders. It was found that CCI #300 primers gave reliable ignition but did cause some case damage. That the CCI #350's give absolutely perfect performance and cause no case damage.

Ray Speer advises that the cartridge case is being altered slightly and that future production should allow the use of all large pistol primers satisfactorily.

The TARGET-38 ammo may be fired in guns chambered for the .38 Smith & Wesson, the .38 S&W Special and the .357 Magnum cartridges.

P. H. T.

#### 100 YARD INDOOR MATCH

Seventy-one competed in the annual Fall Individual and Two-Man Team 100 yard smallbore tournament conducted by the Metropolitan Rifle League in Brooklyn, New York, November 18th. The matches were fired with scope sights on the special MFL targets with  $1\frac{3}{4}$  inch 10 ring and  $\frac{7}{8}$  inch X ring.

Sam Burkhalter and Ransford Triggs each fired scores of 400-38x to rank first and second. These are new record scores on the reduced MRL target. Roy Oster was third with 400-36x, F. Cole fourth with 400-35x and Lloyd Norton fifth with 400-34x. The top 13 shooters fired 400 possible scores.

Irwin and Sam Tekulsky won the team match with an 800-62x score. Barbara and Lloyd Norton were runner-ups with 800-58. The Philadelphia area team of R. Swarts, Jr. and Roy Oster had 788-66 and Sam Burkhalter and Rans Triggs tallied 799-64.

Roy Oster's 400-36x in the team match put him ahead to win the individual aggregate with 800-72x, two X's ahead of Sam Burkhalter. Others ranking on 800 scores were: Lloyd Norton 800-66, Sam Tekulsky 800-63, J. Lantelme 800-62, F. Echler 800-60 and Barbara Norton 800-54.

# Random Shots

By Betty Summerall Duncan

This is the season for reminiscing and self-recrimination, following with resolutions for better shooting in the New Year! It is also an appropriate time to add the final pages to our 1962 volume of shooting news.

The curtain fell on the outdoor small-bore tournament circuit at the Arizona State Matches on November 17-18, but not before revealing T/Sgt. Edward E. Caygle, Jr., USAF, as the winner with 3189-241X, and George J. Stidworthy, Jr., Prescott, as High Resident with 3188-245X. Poor George! Out of eleven tournaments this year, he has been runner-up in eight of them in the Grand. In seven of the eight tournaments, he has lost by 1 point, and in all of the tournaments, he had the winner out-X'd. He is on the verge of becoming disillusioned and concluding that he is a second-rate shooter. Cheer up, fellow! We all believe in you. Besides, many fear you as a really top-notch competitor.

Strong desert winds swept through the range in staccato PUFFS as the opening 50 yd. metallic was in progress. So rough were the conditions that the Grand Agg. was almost decided in the first match. For some of the top names in the country to lose from 12-17 points at 50 yds., you can possibly imagine what it must have been like. It seems almost unbelievable, doesn't it? The winning score was 395.

As the Black Canyon range in Phoenix is the home range of the Western Wildcats, those of you who are planning to compete in the 6400-point aggregate there Feb. 28, March 1, 2, and 3 as a good warm-up for the 6400-point International Prone Team Tryout in Dallas April 22-25, will be interested to know that the above conditions are not characteristic of the range, nor constant. The final day of the 1962 Wildcat Championship began in just the same manner, but the wind soon tapered off and became somewhat calm and collected, just as it did on Nov. 17th.

Caygle lost 9 points in that fateful match, but cleaned the next two—the Dewar and 100 yd. He dropped one at 50-meters, while Stidworthy dropped two, and that determined the Metallic Sight Aggregate. Caygle finished with 1590-103X to Stidworthy's 1589-109X. A/2C Robert W. Morgan, USAF, was 3rd with 1585, followed by Bill Grater's 1583.

Indicative of the extreme contrast in conditions, the atmosphere was so serene in late afternoon, during the firing of the 4-man team any sight Dewar, that the USAF International Smallbore Blue Team from Lackland AFB, Texas, was able to break the former record by 16Xs. Their exceptional 1600-134X score took the National Record away from the Laurel, Mont. team which has held it for a number of years. (You may recall that all four members of the Laurel team were firing BSAs with Swem bedders when they established the record). The new record-holders are: Capt. John T. Bertva—400-33X; T/Sgt. Edward E. Caygle, Jr.—400-34X; S/Sgt. Allan H. Hannon—400-33X; A/2C Robert W. Morgan—400-34X. They were coached by T/Sgt. Kenneth B. Stuart.

(If I may insert a personal note here, it is significant to me that Bob Morgan was a member of this team. His mother, Ruth, and I coached each other ten years ago when the Greenbelt, Md., Gun Club established a 4-woman team record over the same course of fire.)



Record-breaking Any Sight Dewar Team which fired a 1600-134x score at the Arizona State Matches. (Right to left, according to USAF rank) Capt. John T. Bertva, T/Sgt. Edward E. Caygle, Jr., S/Sgt. Allan H. Hannon, A/2c Robert S. Morgan, with their coach T/Sgt. Kenneth S. Stuart.

Photo by Mrs. Mae Olson

Second place team was the Western Wildcats #2, composed of Henry Benson—400-37X; Herb Hollister—400-33X; Bill Atkinson—398-28X; and Adolph Willbrandt—400-31X, for a total of 1598-128X.

Sunday morning was just the opposite of Saturday—almost dead calm, and what little drift was there was easily read by the mirage. Bill Grater and Ed Caygle both had 40X possibles at 50 yds. There were two 39X possibles, and although Stidworthy had the best Creedmoor of the 38X possibles, he didn't place in the awards. . . . Grater was not in the mood to continue shooting for Xs, so made himself scarce. Caygle's coach vetoed the idea of his firing for the record, but several shooters applied sufficient pressure to reverse the decision. Ed settled down to fire, with a barrage of spotting scopes behind him. He carefully warmed up his rifle, fired a generous number of sighters, went for record and—after the second shot, got up off the line.

The any sight Dewar also produced many high X possibles, but  $\frac{3}{4}$  through the 100 yd., the wind blew its cork again. That was when fast shooters definitely gained the advantage. Hank Benson had finished before the big blow started, and he, Tom Guerin, and Bill Hankins from Iowa were clean. With the appearance of the wind, Stidworthy went to his sighter and finally began grouping in the 7-ring. Waiting as long as he could, he had to go back for record and cleaned the bottom bull holding on the edge of the 8-ring. He proclaimed it a "nasty feeling" . . . A good many 1600s fell by the way-side in the 100 yd. match. Stidworthy had lost one before the wind kicked up, and Caygle was down one and had a squeaker. When the plug fell and the shot was good, the tide of the tournament was set.

Stidworthy won the meter, which Caygle also cleaned. Guerin and Hankins both lost their 1600s. And, as always under pressure, Hank Benson came through. It took real courage to shoot two shots in at 50-meters with the wind the way it was. What a wonderful climax for Henry to fin-

ish up the year with his sixth 1600 possible! He claimed the Any Sight Agg. with 1600-126X.

Third place in the Grand Agg. went to Bill Grater, Camarillo, Calif., with a 3181-240X, which is a good indication of Saturday's shattering effect on the scores. . . . From what we can gather, there were 102 competitors.

A little blonde "spitfire" from San Pedro, Calif., who has been coming up fast in this man's shooting game, is worthy of special mention—Miss Judy Saffell. Judy outshot all of the Experts, Ladies, and Juniors with her 3164-185X. She had the second high score—399-23X—on the Wildcats Ferocious 4-man team, consisting of Cammon Bender, Tom Roberson and Creed Page. Her trademark is her barefeet, even in the coldest weather. She, also, is quite adept in the art of judo. . . . The Junior Trophy went to Gary Olson with a 3149-165X. His teammate, Mike Walker, won it last year.

I think that we are all interested in the finer points of what goes into the firing of a 1600-134X team Record. The Air Force shooters attribute a great deal of their success to the high quality of gunsmith work which they get, along with the hours spent by both shooters and gunsmiths in the test tunnel preparing the weapons. All rifles are mated to ammo from a machine rest in the tunnel and tuned for best performance with that lot of ammo.

Bertva, a member of the Cairo team, was firing a BSA Mark II, Hart stainless barrel, with Lyman 25X scope, and Mark III ammo—lot 43a. All four team members use the following metallic sights with only a variation in apertures: Redfield Int. Mark VIII rear, and Freeland  $6\frac{1}{2}$ " front. Bertva's aperture is .115" His rifle was fitted by S/Sgt. Carl Stout, USAF Int. Rifle Team Gunsmith, using custom bedding and a Freeland 2-point bedder with spring loaded barrel band. (Factory trigger.)

An Atkinson-Marquart stainless barrel, with BSA Mark II action and trigger,

was used by Caygle in winning the Metallic and Grand Aggregates. His scope is a Lyman 30X, and his front metallic aperture is .120". He fired Mark III, lot 32a. SMs Leon Johnson, NCOIC USAF Rifle Gunsmith Section, is credited with the accuracy of this outfit, using custom bedding and Freeland 2-point bedder with spring loaded barrel band. . . . Both of these rifles are bedded in wood, with no glass.

Hannon shoots a factory 40-X with trigger re-worked by gunsmith. (The 40-X triggers do seem to need re-working.) The barrel is free floating in glass bedding. . . . Morgan's Atkinson-Marquart stainless-52C is bedded under the barrel only, using glass bedding, USAF experimental type. The 52C trigger was also re-worked by the Gunsmith. S/Sgt. Stout did the gunsmithing work on both of these rifles. Hannon's front aperture is .115" adn Morgan's, .120". They both use Lyman 30X scopes, and Mark III, lot 43a.

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One of the most amusing stories is the one which Bob Boydston tells on himself. After dropping 3 points in the team match, to take the Los Angeles Rifle and Revolver Club team of Guerin, Grater, and Mike Allen out of the running for second place, he jumped to the conclusion that his rifle wasn't shooting. So, for the scope matches, he switched to the BSA which he bought from Watt Redfield. He sent the "disabled rifle" up to Karl Kenyon for repair. Karl wrote back: "There is nothing wrong with the rifle except that the scope blocks are loose!" A friend had—purely accidentally—knocked the rifle over on Saturday night during the Fall Round-Up. Bob had put in new screws, but in all fairness to him, the threads were apparently stripped.

Hollister, who has the Chrysler-Dodge Agency in Boulder, Colo., had a new luxury model Dodge camper on display. Equipped with plumbing and all the conveniences of home, it was quite the center of attraction in Phoenix. Herb's brother accompanied him on this trip, and made a reputation for himself as a chef—a reputation which he won't soon live down. Hank Benson was invited on Friday night to join the two Hollisters for charcoal-broiled steaks—and they certainly were. (charcoal-broiled, that is.) The chef first started his fire with a pile of mesquite, but put the charcoal and steaks on too soon. The mesquite flared up and the steaks did everything but explode. Luckily, the Air Force came to the rescue and dumped a bucket of water over it all. . . . The next night, Hank was anticipating that 1600 and, to be on the safe side, insisted that Herb and the chef be his guests at a restaurant.

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Last month I gave you the story on the illness which placed our international team shooters in a decidedly disadvantageous position in Cairo. I suggested, as you may recall, that a supply of food and water should accompany future U. S. International Teams firing on foreign soil. We now have confirmation that our assumption was correct regarding the fact that the Russians were not afflicted by the weakening disease which so handicapped our shooters. They and the Swiss had the wisdom to take their own food! The Swiss shooters even had their own cook along.

There is no refrigeration in Cairo. Meat is eaten the same day it is killed, and cooked in sheep fat. Reports are that it was terrible. Salads couldn't be eaten due to impure cleansing and were coated with alien amoebae. Milk products were taboo. Our boys found that the safest nourishment was shrimp from the Red Sea, soup, and

Egyptian white wine, in lieu of the water. Those few who escaped the siege of dysentery, suffered with high, lingering temperatures. . . . A few of the pistol and shotgun shooters were affected by late hours and alcohol, but those who trained, generally shot well.

The teams stayed overnight in Paris, with stops in Rome and Athens en route. On the return trip they stopped in Madrid and Lisbon. As they flew over the Egyptian desert, they could see the green around the River Nile, with the surrounding area being dismal desert. The famed Nile is a filthy brown. On landing, they were immediately bowled over by hot, heavy air of many odors, and many small persistent flies. They encamped at the Nile Hilton, a 12-story structure. . . . They found the construction of the pyramids amazing. Some of the stones weigh 54 tons. . . . The people were friendly and helpful. Especially friendly were the Egyptian officers and soldiers. An enlightening observation: "Those people are misunderstood by Americans due to our government and press. They aren't Commies, or even near it. They hate Commies, who are against all religions. They are in the position, in Egypt, of being 500 years behind in everything. They are taking from everyone to help catch up. They don't like the Russians and are suspicious of them. Egyptians visiting Russia come back disillusioned and unhappy."

The U. A. R. gov't took quite a bit from their economy to build a beautiful modern range in the middle of the desert near the pyramids. They brought in top soil and sod, building a 3-story new brick, white-stuccoed shooting house with 80 smallbore points on the 1st floor, plus a post office and restaurant. The 2nd floor contains a lounge, offices and team rooms. The 3rd floor has 55 300-meter points and more team rooms and another restaurant.

Nassar Land has been called an "Oriental democracy"—a polite term for dictatorship. Mail in and out is censored. Hotel rooms were constantly searched. The maids went through all suit cases, etc., daily, but nothing was ever missing. . . . The Governor of Cairo entertained the teams as did the American Ambassador. Our Ambassador to Egypt is extremely competent, having taught in Cairo for years. Wouldn't you have thought that someone would have stopped partying long enough to ask him about the drug which would have prevented the dysentery?

Gary Anderson not only has the admiration of all of his teammates for his spectacular shooting, but he is equally admired by them as a person—with no trace of envy. . . . He was coached throughout the matches by Nat'l Champ Pres Kendall. . . . Aside from the varying effects of the illness, the scores do not in all cases reflect the true story. The smallbore team was split up over the range. The shooter on the lefthand side had the worst spot, where the wind was reflected and tumbling. His score was creditable under those conditions. On the other hand, a shooter on a good position was afflicted with "buck fever." We are not condemning him, you understand, for until one stops shooting for himself and begins shooting for his country, he cannot realize the terrific pressure which can assail an international competitor. He has suffered enough already, and it is our sincere hope that he recovers.

There were 43 countries represented and over 600 shooters present. The most friendly were the West Germans and the Russians. We realize, of course, that the

(Continued on Page Seventeen)

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## STRENGTH OF THE LO-WALL ACTION

By Christian H. Helbig  
and  
Phillip B. Cain

### Experimental Ballistics Associates

The trim little Winchester Lo-Wall action has always been a favorite of mine and I consider it much stronger than most firearms experts' contend. The cut down rear locking recess puts the block into more of a shear strain than the pure compression of the Hi-Wall, but since the block is supported about .2" below the barrel centerline it is not so unsupported as it appears. The side walls are usually .010" thinner than the Hi-Wall model. These changes do reduce its strength by a certain amount but do not put it in the same class as the Ballard or Stevens #44 actions. General thinking has been that the Lo-Wall is fine for the Hornet and just about safe using the .218 Bee. This is a consensus I do not agree with, nor does associate Phil Cain. While we have used this action for more powerful cartridges than the Bee and were in the process of fitting up a .256 Winchester Magnum on the Lo-Wall we thought another opinion would be of interest.

Now, in hopes of getting a confirmation of our beliefs, we wrote a well known firearms expert of a large gun magazine. The basic question being the safety of the .357 or .256 Magnum cartridges on the Lo-Wall action, based on factory loadings of about 43,000 psi. The reply was not only affirmative but frightening! It stated that this action was OK to use with 40,000 to 41,000 psi loads such as the .22 Hornet, .357 Magnum and—.44 Magnum. To us the .44 Magnum is by far too powerful for use on the Lo-Wall. We have always been of the opinion that thrust load on an action is a result of the psi loading times the inside case area in square inches (like any hydraulic or pneumatic condition). Actual back-thrust cannot be accurately measured. One can still get a theoretical load that is quite accurate for assessing one cartridge relative to another. This is: Working psi times inside largest area of case equals X pounds. This is a comparison, cling of case to chamber not being considered since it is about equal in various cases. Also we must assume normal headspace, a running start of an over headspaced case gives a greater shock load.

The .44 Magnum is listed by the H. P. White Labs as having a 41,870 psi working pressure, factory ammo. with 240 grain bullet. This information can be found in the American Rifleman magazine, May 1961 issue. brief comparison using the above theory is:

.22 Hornet	gives 2200#	at 45,000 psi
.218 Bee	gives 3180#	@ 45,000 psi
.357 & .256 Mag.	gives 4320#	@ 43,000 psi
44-40 & 38-40	gives 3800#	@ 25,000 psi
.44 Magnum	gives 6100#	@ 41,870 psi
.30-40 Krag	gives 6100#	@ 42,000 psi

The listing of the .30-40 is to give a punch line to our argument. Who in his right mind would recommend a .30-40 Krag on a Lo-Wall? So how can one even entertain the idea of the .44 Magnum that gives about as much load!

After the shock of the first letter wore off, a second was mailed asking as politely as possible if the .44 Magnum had been mentioned in error? The thrust theory was mentioned. The reply came and still considered the .44 Magnum as OK for the Lo-Wall action, the reason given was that the straight case gave less back-thrust than the

tapered Krag. Again Phil and I did not agree. We still thought it wrong as outlined above and felt that some poor gun-bug will go to his Valhalla real quick if he shot a conversion like this.

To prove our ideas of the good strength of the Lo-Wall and also to show it is inadequate for the .44 Magnum, a test was in order. A Lo-Wall action of mine (#77065) was fitted up with a .44 Magnum barrel that was rebored from a smaller caliber. This is the case-hardened action, considered to be more subject to failure than the blued type. The breech block was annealed during the bushing of the firing pin. This brings up another opinion I feel is in error; that a cased Lo-Wall or Hi-Wall is weaker. On all the numerous ones I have worked on or converted, I never found the case-hardening to be more than .005" deep. This amount in no way makes the action prone to fracturing; the soft internal steel core has ample resiliency. Bushing the pin is a must since they usually were  $\frac{1}{8}$ " and a sloppy fit. The face of the block was squared to the bore center-line to assure best breeching. Many of these old actions are far from square after years of use and abuse. Bear in mind that we are considering only decent condition actions; not the kind that require excessive metal removal to clean up the sides.

Initial headspace was set at .0555". This gave a close fit with most cases clearing by .001" to .002". Two loads of 20 grains of #2400 were put through to give initial seating-in to the freshly barreled and chambered gun. The headspace settled at .0560". All loads were with Remington cases, Federal primers and a 1 to 10 alloy cast 245 grain gas-check bullet. The table gives the results of the test.

Round #3	24 grains #2400	increase to .0565"
Round #4	24 grains #2400	increase to .0570"
Round #5	Remington Factory (Lot U-17E)	increase to .0590"
Round #6	Remington Factory (Lot U-17E)	increase to .0615"
Round #7	Remington Factory (Lot U-17E)	increase to .0625"
Round #8	Remington Factory (Lot U-17E)	increase to .0630"
Round #9	23 gr. Alcan AL-8	increase to .0635"
Round #10	23 gr. Alcan AL-8	no increase .0635"
Round #11	23 gr. Alcan AL-8	increase to .0640"
Round #12	25 gr. #2400	no increase .0640"
Round #13	25 gr. #2400	increase to .0645"
Round #14	25 gr. #2400	increase to .0655"
Round #15	23 Gr. Alcan AL-8	increase to .0660"
Round #16	23 Gr. Alcan AL-8	increase to .0675"

(Cases stretching. Stopped test.)

In the 16 rounds fired the headspace increased by .012", excessive by any standards. The action looked like it would keep right on stretching until we would get a complete head separation or worse. The above AL-8 and #2400 loads are 1.0 gr. more than has been repeatedly used in a Single Action Colt with Christy floating pin and new cylinder, with no adverse affects. They are however **NO RECOMMENDATIONS ON OUR PART** for use in any .44 Magnum handgun!

We believe these results prove our point that the Lo-Wall IS NOT under any conditions safe to convert to the .44 Magnum cartridge. It might hold for a while but eventually disaster will occur. We realize that some conversions are in existence and holding together for now, but we all have only one life or set of eyes! One action tested cannot be termed conclusive but with this amount of give it proves that it will go to pieces in time. Another fault found is the thin chamber wall due to the small shank of the Lo-Wall action. By the time we were done the chamber had swol-

len enough to make extraction difficult. This is mostly due to the soft steel in the older type barrels.

The indentation of the action took place about .004" on the rear face of the block, about .005" on the top locking recesses of the frame and .003" on the front bottom frame recess. The block was also slightly twisted since it is not supported on one side at the bottom due to extractor clearance. This set-back caused the block face to cant so cases once fired could not be rechambered with their heads not square.

This action will make a good foundation for the Hornet (or K-H), Bee, .22 Remington Jet, .256 Winchester Magnum and .357 Magnum is in good condition with properly bushed block. That statement goes for normal factory pressures, not some of the hairy loads some people blow primers with. A barrel of 1.050" diameter at breech can be fitted and with a straight taper will be very accurate without being too heavy. The choice should always be the center-fire or .32 rim-fire action since they do not have the deep seating groove of the .22's. Another Lo-Wall action used to test the Hornet vs K-Hornet (Dec. 1961 Precision Shooting) took some brutal punishment when some loads of H-240 powder flowed the brass on the solid base and rim of the case. Two of the cases would accept the LARGE rifle primer! This does happen when testing an unknown load but the action took it with absolutely no increase in headspace.

To sum up, the Lo-Wall has been much overlooked and underrated by most people. It was well made of quality materials of its day and can be picked up at a low price. It should soon be popular to

increase to .0565"
increase to .0570"
increase to .0590"
increase to .0615"
increase to .0625"
increase to .0630"
increase to .0635"
no increase .0635"
increase to .0640"
no increase .0640"
increase to .0645"
increase to .0655"
increase to .0660"
increase to .0675"

convert to the new .256 Winchester Magnum round. Numrich Arms Co. have new 14" twist .25 Caliber Savage Model 23 barrels that are perfect to fit up into .256, about .920" to .560" straight taper 25" long. The Winder type musket actions should be avoided due to the multitude of sight holes tapped into the side of the receiver. We would question the strength of this style. If the .357 Magnum is used quite potent loads are possible. We have chronographed the 146 gr. ball at over 2100 and 200 gr. at over 1700 fps. Pressures were mild enough for a Lo-Wall.

It would seem from this test that the advice of even experts can be wrong, and that they should be far more careful. They have a great responsibility to the shooting public, most of all in the recommending of suitable action-cartridge combinations where the shooters safety is concerned. So, get a Lo-Wall and build a light, accurate rifle, work up loads with due caution and common sense and you can have a very good .256 or .357 Magnum or .22 Remington Jet.



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#### THE WINCHESTER 52 BOLT

By Jesse M. Grigg

Many years ago an eminent college professor stated that the smartest of ordinary mortals are not the educators, the statesmen, nor business people, but were the chief riggers, the construction superintendents, and the precision machinists. Thus he put inventive genius at the top, his criterion being superior ability and originality in devising means to difficult achievement. According to this criterion the first who used a straight edge to draw a straight line would rate very highly.

If the professor had known about gunsmiths, deep-dyed gun cranks, or even hot-shot riflemen he might have been willing to include some of these in his category. A fair percentage of gun cranks who are mechanics of some sort by trade eventually become skilled in precision, either by experience in reloading, or in modifying guns and making accessories to suit their whims.

I do not rate among the smart ones. I am not even a gunsmith. I am just a tinkerer. I was such when, as a kid telegrapher fresh from the farm, I took apart a .32 caliber revolver with pocket knife for tools, but failed to get the pieces back together owing to inability to bend the mainspring into the hammer notch with bare fingers. Thus I was deficient in what the professor had in mind—ability to devise.

Since that time, however, my skill at tinkering has improved a little. Now I am able to take apart a match rifle bolt and get it back together again; and as a smallbore shooter I say that ability to do this has proved of inestimable value to me. Maybe it is necessary to install a new mainspring, maybe the firing pin is dragging, maybe the

firing pin nose is warped or chipped, or maybe the headspace has become excessive. Whatever the fault, knowing how to take the bolt apart pays off.

I don't know how a gunsmith does it, but I have a way that works for the Win. 52, and the same principle has worked for the old Savage 19, and I believe would work for the Rem. 37.

First it is explained that rifles of this type use a coil mainspring, one end of which pushes in direction to drive the striker forward, while the other pushes against a stop inside the bolt body. In the 52 bolt this stop is a cross pin which is concealed under the bolt sleeve. The bolt cannot be taken down before this pin has been pushed out, and the pin cannot be pushed out until the bolt sleeve has been forcibly drawn back to uncover it, and the spring pressure on the pin has been relieved. How to remove this spring pressure is the problem.

I use a steel rod about 5 inches long, it having a diameter about equal to but not exceeding that of the coil mainspring, which is .235". In one end of this rod is cut a longitudinal slot  $\frac{3}{8}$ " deep, this equaling the distance which the bolt sleeve must be pulled back to uncover the pin. The width of the slot is such that it just straddles the .125" pin. Tempering is not required, but good material such as drill rod is necessary; otherwise, as the strain on the prongs is great, the ends may close together and slip inside the coil mainspring.

Another piece, not necessary but a big help, is a strip of metal about 2 inches long, and not less than  $\frac{3}{32}$ " thick at one end. This end should be filed or ground to full  $\frac{1}{8}$ " width over the first half inch of its

length. It is used to hold the bolt sleeve back with the pin exposed. Because it resists the powerful thrust of the mainspring, a hole is drilled in the other end so that, used as a wedge, the piece can be tethered to the vise with stout twine for safety in event that it flies.

To take the bolt apart, first clamp it in a flat vise, bottom side up, with rags on either side to avoid marring, and back out the safety screw at the rear. With one hand pull the bolt sleeve back far enough to uncover the pin, and with the other hand insert the wedge between the bolt sleeve and the bolt shoulder, making sure that the wedge is already tethered. Next insert the slotted rod so that it straddles the pin. Then, by means of a board across the stomach, exert enough force on the rod to relieve the spring pressure on the pin. Both hands being free, the pin may now be pushed out with any instrument that will enter the hole, say a small drill or even a toothpick. The wedge will fall away of itself as the pressure of the rod on the spring is relieved. The process of assembly is the reverse of this, but I usually stretch the spring a little for luck.

With the mainspring out you can now check the firing pin for proper functioning. With the bolt body held upright, the firing pin should fall to a seat with a metallic click from as little height as  $\frac{1}{2}$ ". If the sound is muffled, the pin needs polishing or possibly straightening at the bright spots which show where it drags.

If the protrusion is scanty, or if the nose is chipped or badly worn, the nose should be drawn out and then reshaped with

(Continued on Page Fifteen)

# National Bench Rest Shooters Association, Inc.

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Alfred W. Walter (President)  
1925 Raft Dr., Hanley Hills  
St. Louis 33, Missouri

### NORTH CENTRAL REGION

Walt C. Siewert  
Box 749  
Custer, South Dakota

### NORTHWEST REGION

Dr. Rod Janson  
606 West Galer  
Seattle 99, Washington

### SOUTHWEST REGION

John B. Sweany  
187-A Silverado Trail  
Calistoga, California

### Secretary-Treasurer

Bernice E. McMullen  
603 West Line St.  
Minerva, Ohio

### NBRSA MEMBERSHIP DUES:

Individual annual dues \$5.00 (includes magazine subscription for membership term). Associate member (wife or husband, son or daughter under 18 years of age, of member in good standing—no magazine) \$2.50. Life membership, \$75.00. Annual club affiliation fee \$10.00.

### PRESIDENT'S CORNER

To the members and clubs of all regions: Try to hold a Winter Planning Meeting. This is the time to set the dates for the coming season shoots, check with your adjoining regions for confliction of shooting dates and have a firm program for the season planned in advance. Many other items can be discussed at a meeting of this type. This brings the shooters closer together and promotes a better understanding of all problems.

In some regions the coming season is going to bring a tremendous increase in the Varmint and Sporter class shooting. These classes are becoming more popular each season and with the assurance of the directors of their continuation, and the releasing of power restrictions on scopes this popularity will really accelerate.

The location of St. Louis for the next Varmint and Sporter National Match is proving very popular. A number of Eastern Region shooters have told me that they are going to attend this match. As I consider this and other things we should have a great season in 1963.

As you read this my term of office as your President and Eastern Region director will be about completed. This has been a period of six years as Deputy Director, Director and President of the NBRSA. It has been a rewarding experience. I have made many fine acquaintances and friends.

We had troubles but I am happy to say that these troubles brought forth many improvements and helped to build a better and stronger organization. I wish to thank each and every one for help, support and encouragement during my time in office. Please give this same consideration to the new officers of your organization. The NBRSA will be just what we shooters make it.

During the coming season I will look forward to seeing every one at the matches, where we meet as the best of friends and I hope to be a tough competitor.

So Long,

Bob Hart

### SEATTLE PRECISION SHOOTERS, INC.

The Seattle, Washington, Precision Shooters Club has recently incorporated, elected a new slate of officers, signed a 10 year lease for a new range site and are presently busily engaged in getting the range ready for the 1963 shooting season.

At the first meeting after incorporation, Howard Kalber was elected President, Roy Norma, Vice President and Manley M. Oakley, (7230 So. 116th, Seattle), Secretary-Treasurer. As of December 3, 1962 they report having 21 charter members and expect to have more before charter memberships are closed.

The club has acquired a 3000 watt generator. Roy Meister located it while elk hunting and Allen Bench brought it to Seattle where it has been checked over and necessary repairs made to put it in top condition.

The first range project is to erect a range house, which by the time you read this will probably be completed, so far as exterior is concerned at least.

A bit of historical background for this group may be in order, with some credit where credit is due.

Dr. Rod Janson and Roy Meister of Seattle were among the organizers of the Puget Sound Snipers Congress which organized and conducted the first of the modern day bench rest competitions at Seattle in 1944. Since that time, through ups and downs, disappointments and discouragements, Rod and Roy have continued to try to promote benchrest shooting in the Northwest. They represented their area at the meeting in Denver, Colorado, which organized the National Bench Rest Shooters Association, and led in the organization of the NBRSA Northwest Region.

For the past two or three years, following what seemed an all-time low of bench rest shooting interest in the area, Rod and Roy stepped up their promotional effort. They concentrated on the light rifle classes to interest prospective new converts to bench shooting. They promoted and conducted non-registered shoots to test fresh ideas of program, courses of fire, class modifications, etc. to suit the interest and desires of the new shooters. The first progress report of the newly incorporated club with its sizable active membership and progressive program is evidence of the success of their efforts.

With a new slate officers taking over management of the club and its programs, Rod Janson and Roy Meister should have more time to devote to their own shooting and we suspect that everyone will wish them well at that.

P. H. T.

## NOTICE NBRSA EASTERN REGION MEMBERS

The Winter Meeting of the Eastern Region will be held at Mark Twain Hotel in Elmira, New York, on Saturday and Sunday, January 19th and 20th, 1963. Members and club representatives are urged to attend.

One of the functions of this meeting is to set the schedule of matches for the coming year. Clubs should give their representatives who attend this meeting a schedule of match dates desired and alternate dates for adjusting the over-all schedule.

Other business of the meeting will be discussion of conditions, improvements and recommendations to your Director and Deputy Directors for the annual Directors' Meeting; to hear the Treasurer's report; and other items which may be brought up by members at the meeting.

I understand our Director-elect will display the Field & Stream bowl, appropriately filled for your enjoyment, on Saturday night. You're all invited.

Robert W. Hart  
Eastern Region Director

## NOTICE ARIZONA, CALIFORNIA, NEVADA AND UTAH SUBSCRIBERS

The Director of the South West Region of the NBRSA asks all, ALL, PRECISION SHOOTING subscribers except those whose names we already have, and they will know, to please send him a card with their name and address. The reason: We will get out a questionnaire in the near future to list what you have in benchrest equipment, find out what you want, and propose a series of a type of Postal Shoots to create more interest in bench rest shooting, get acquainted on paper and we hope, face to face. These shoots will be conducted on your own home range and a bulletin of results will be mailed to you. Send your cards with name and address to:

John B. Sweany  
187A Silverado Trail  
Calistoga, California

### POPULAR SHOOT BEING REVIVED

Announcement that the Stonewall Rifle Club at Staunton, Virginia, plans to hold its popular Spring Shoot for heavy benchrest rifles in 1963 will be welcome news to many Northeastern benchrest competitors.

The Staunton Spring Shoot has always been popular among shooters north of Virginia who are anxious to get an early start in the season's competition and to get a little encouragement from an early taste of Spring as well, and it has been missed for the past year or two.

The firm date for the shoot will be fixed at the Eastern Region Winter Meeting. It will probably be a weekend late in April. The Eastern Region 1963 match schedule will be published in the February issue of Precision Shooting.

### MORE BENCH REST RECORDS

The following new official records for unlimited class bench rest rifles were all shot in the registered shoot at Richmond, Indiana, August 11, 1962.

Ferris Pindell, Richmond, Ind. shot a 10-shot group at 100 yards measuring .1566 inch to break the record co-held by Cline Deere and Bernice McMullen. His gun was a .219 Don in Hart barrel on Weber action with Unertl 30X scope, total weight 50 pounds. Pindell did his own gunsmith-

ing and stocking. His load was 24 grains 3031 powder, bullets made in B&A dies and CCI primers.

Al Roberts, Louisville, Kentucky, made two new aggregate records. His official aggregate average for five 10-shot matches at 100 yards was .2289 minute-of-angle, to break the two-week-old record held by Dave Walker of Louisville. His National Match Course Aggregate (average for five 10-shot matches at 100 yards and five 10-shot matches at 200 yards) was officially .2563 minute-of-angle, to break another two-week-old record co-held by Clyde Yockey and Dave Walker. Roberts gun was a .222 Magnum in Hart barrel on Schultz and Larsen action with Unertl 20X scope, total weight 48 pounds. His load was 26.5 grs. 4064 powder, his own 51 gr. bullets and Remington primers.

Edgar Walker III, Louisville, Ky., shot a 10 shot group at 200 yards which was officially measured as .3704 inch which displaced Al Roberts' .3796 record made two weeks earlier. Walker's 200 yard aggregate (five 10-shot matches at 200 yards) was officially .2496 minute-of-angle and this beat his own two-week-old record of .2617 MOA. His gun is a .219 Don in Hart barrel on Mauser '98 action with Unertl 33X scope, total weight 65 pounds. His load 26.2 grs. 3031 powder, his own 6S 52 gr. bullets and Remington primers.

Both Roberts' and Walker's guns were gunsmithed by J. D. Melton and stocked by the owners.

#### CALIFORNIA BENCHREST MATCH

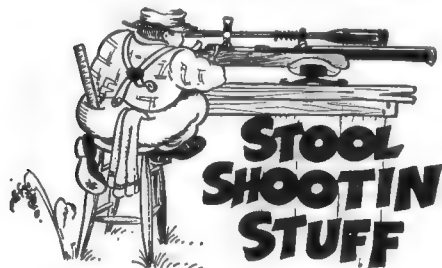
On October 7, 1962, The Modesto Rifle Club held a Bench Rest Match. There were 13 competitors that shot in the 4 classes—Open Bench, Heavy & Light Varmint, and Sporter. All the matches were fired at 200 yards. There were 4-5 shot matches, 2-10 shot matches, and then thinking it would be easy—a one shot for center target (not as easy as one would think).

In the Open Bench Allen Hobbs won with 0.5345 M.O.A., second was Duane Jenner with 0.6509 M.O.A. In the Heavy Varmint first place was taken by Allen Hobbs with 0.7725 M.O.A., second was L. Shepherd with 0.800 M.O.A. In the Light Varmint first was R. MacDougall with 1.1495 M.O.A., second was Duane Jenner with 1.1931 M.O.A. In the Sporter was Russell Lacque with 1.102 M.O.A., and second was Jack Broome with 1.387 M.O.A.

Everybody went home happy to one extent—everybody won at least one or more of the trophies of which there were over 100 given by The Modesto Rifle Club.

Modesto's next Bench Rest Shoot will be their big Annual Shoot in April 1963.

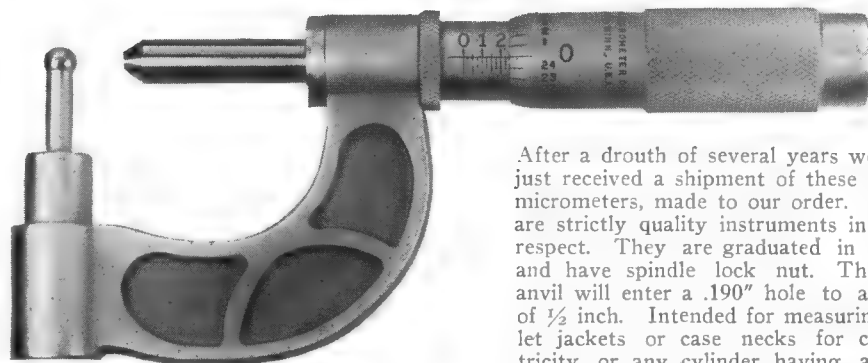
D. Jenner



Dear Phil:

Here we are with copy for the Christmas magazine and wouldn't it be nice if we could all personally wish one another a merry Christmas and a happy New Year. How quickly the seasons roll around, one after the other. It seems only yesterday that the benchrest season came to a close

## WALL THICKNESS MICROMETER



After a drouth of several years we have just received a shipment of these special micrometers, made to our order. These are strictly quality instruments in every respect. They are graduated in tenths and have spindle lock nut. The ball anvil will enter a .190" hole to a depth of 1/2 inch. Intended for measuring bullet jackets or case necks for concentricity, or any cylinder having a .190" or larger bore and a wall thickness not over 1". The checking of jackets with tapered interior is greatly aided by the square shoulder on anvil boss which acts as a stop, permitting each measurement around the circumference of the jacket to be made the same distance from the end. Besides the above-mentioned uses, many other measurements in the precision location of holes and slots can be made which would be difficult or impossible with other types of measuring instruments. This is an attractive, precision tool and a definite asset to the critical handloader. These micrometers are not advertised in our literature and are offered subject to prior sale. Priced at \$30.00 each. Add 40¢ for insured mailing. Washington State residents add \$1.20 for sales tax.

L. E. WILSON,

BOX 324

CASHMERE, WASH.

and that the Fall hunting season was upon us. Now it is a matter of history and fond memories. Among the Fall days, there were those which were disappointing but from every one, I derived pleasure through being able to wander through the woods and over the hills with a gun crooked in my arm. I'll have to admit that wander was the thing that I did most of and probably best.

The various guns which I carried were staunch friends and they always did their part. Sometimes I let them down but that is a characteristic performance for all of us whether we are hunting or shooting from a bench. Most guns after they are tuned in and have the bugs taken out of them perform consistently well and it is pretty safe to say that it was the "nut behind the butt" who failed to do his part. Hunting ammunition doesn't usually perform as well as our target loads, especially if we use commercial bullets without weighing them or checking them but they aren't far behind either. I used quite a few Speer bullets this year and the groupings were all that one could reasonably ask for. It must take an awful lot of game shooting to prove the outstanding leadership of one bullet over the others and I make no claim to having had an opportunity to demonstrate such superiority. One of the Speer 8 m/m bullets in front of an 8 m/m 06 load certainly left nothing to be desired after Merrie caused it to connect with a bull moose. The expanded shape and the retained weight certainly pleased me and quickly caused the demise of the moose.

I developed a way of making lead pointed bullets in dies of the B & A type. This system won't work unless the dies are very accurately made and highly polished and the processes a little longer than that required for the normal hollow point bullet for which the dies were intended; however, the finished bullets indicated fine accuracy and tremendous shocking power. A hollow point bullet must connect with game at tremendous velocity to perform well and you only need to look at the ballistic tables to find out how much those velocities drop off at longer ranges.

Bullet making dies are becoming more and more widely used and unfortunately

some fellows have had unsatisfactory experiences. What seems so simple to me now perhaps was quite a problem and a challenge some years ago and I guess the best advice that I can give is to become very familiar with your tools by using them a lot and thinking about them and what you are doing with them a lot more.

Many years ago I asked a fellow who was an outstanding machinist how I could become more adept at cutting inside threads on a lathe. His answer I shall never forget. It was "you cut a hell of a lot of them and pay strict attention to what you are doing" and that is just about what you have to do if you are going to make good bullets.

One can't make bullets for about a generation and write and talk about it frequently without getting a lot of correspondence, and inquiries. Sometimes I write a letter nearly as long as this column to a fellow from whom I have never heard before to try to get him out of his troubles and answer his inquiries. I have seldom regretted that kind of a letter and as long as I am able to, will try to help other fellows who love shooting. Merrie has one on the desk now that is quite characteristic. The query is how does one place the lead line in the core of the jacket to obtain the best balanced bullet. Of course, one can always drop back to the trial and error system but who wants to wear out good barrels in making such tests and perhaps they will extend over a matter of months during which the shooter hopes he has found occasions when shooting conditions are as near alike as possible. In all the tests that I have been able to make, a gun which is shooting well will handle quite a variety of bullet weights with what appears to be identical accuracy. This leads me to believe that the lead line may vary considerably and the bullet perform as a well balanced bullet should. There may be a bullet size that works best for a particular barrel but again I say it is a very difficult thing to prove and similarly we find that a good gun will shoot well bullets of various diameters. I am not attempting to say that there is not a best weight or a best diameter—I merely say that the shooter should select the one that seems to perform best for him as he

(Continued on Page Twelve)

## PRECISION STAYNLESS STEEL MATCH TARGET BARRELS

Blanks in calibers .224, 6mm and .30 caliber available.  
.22 rim fire blanks sold installed in customer's action only.

For prices and particulars, write:

### Hart Rifle Barrels, Inc.

LaFayette, New York, R. D. #2

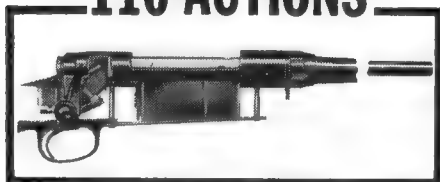
Telephone Tully, N. Y. Area 315 NX 6-5624

#### "FLYBUSTIN" Targets

Improve your shooting performance and pleasure. Participate in "Flybustin" contests. Targets in stock for immediate delivery at \$3.00 per 100. Special prices to distributors in quantity orders. All prices plus postage for estimated 2 lbs. per 100 targets.

CRAWFORD H. HOLLIDGE Cotuit Road, Marstons Mills, Mass.

## NOW! FAMOUS SAVAGE MODEL 110 ACTIONS



You can custom build a rifle to your own specifications with the Savage One-Ten, America's finest bolt action.

No conversion needed—you can make your own brand-new sporter, bench rest or varmint rifle.

First completely new bolt action in years, the One-Ten is the only American-made rifle available as an action in both right and left-hand models. Precision head-spacing, double front locking lugs, top tang safety and other unique features. Calibers .243, .270, .308 and .30-06. Parts and service always readily obtainable.

One-Ten barreled actions are available through your sporting arms dealer. Right-hand, \$84.00; left-hand, \$88.50. For actions only, see your gunsmith or write Savage Arms, Westfield 131 Massachusetts.

model 110 actions by  
**Savage** 

#### Stool Shootin' Stuff

(Continued from Page Eleven)

tests his gun after he is reasonably assured that the bugs have been eliminated. The basic problem is making the best bullet possible with the components and tools that are available, backing it up by a good load and loading techniques, shooting it carefully and capably in a gun that you are positive has the capabilities required.

It is obvious that we cannot reach satisfactory conclusions unless we go back to the very beginning of our process and that usually amounts to start — with the best possible dies. It is crystal clear to us that the dies must be perfect in their cavity shape and remain so during the processing of the bullets. This is true for all stages but probably most important at the latter stage. It is not enough to have that die smooth and true as you hold it in your hand

but it must retain that condition under the stress of considerable pressure. Bullets are frequently turned out from dies that have been considerably stretched and, of course, the product cannot be perfect; likewise, bullets are turned out from dies which were not fully filled because the pressure is not adequate on the bullets. In either case, bullets will not be round. We, therefore, come to the position that there is a right diameter and right pressure for each die. I often hear fellows say that in their dies, they can make bullets of various diameters. I know this to be true and I can do the same but I think better bullets result when separate dies are used for each size.

We all know that jacket lots vary even though they are billed to us under the same specifications. We also all know that a uniform wall thickness is of great importance and that is why we select, measure and modify our jackets in an effort to obtain jackets that are as perfect as possible. This step is tedious but its worth has been demonstrated and there is not much use in our making bullets unless we can make them as perfectly as possible.

The proper lead line cannot be determined if our jackets are not truly cylindrical and of uniform wall thickness because the lead will bleed by the seating punch which must compress the lead and expand the jacket outwards without the tiniest trace of lead bleeding by that punch. This situation is further complicated because the inner wall of the jacket is tapered and we, therefore, must select the punch of proper diameter to make full contact with the lead as it is compressed and expanded and preferably not bite in to the jacket wall. That is the reason why we need a range of five or more punch sizes, to make subsequent lots of bullets of the same size and weight. The punch which is good for one jacket lot of 52.5 grain bullets may not make perfect 52.5 grain bullets from another jacket lot because of the jacket variation. You can clearly see that we are confronted with another problem caused by a bleeding by of the lead and/or the lack of uniformity in jackets. This is the nuisance caused us when the jacket sticks on the end of the punch and not within the die. Other factors which contribute to this nuisance are punches which are too large or too much lubricant used on the jacket.

Experience is a great teacher and how fortunate we are in having the written word and the many publications that save us from going over and over experiments that have already been made by qualified men who lived, and shot and wrote before us. Creighton Audette's article in the November issue was very well done. We must always be sure, however, that there wasn't a tiny loophole in the original experiment

that when filled by a later experiment would bring out a different result.

We are all perhaps creatures who are inclined to act and think as a result of our own experiences but as you, yourself, Phil, have so often pointed out, we can be lead astray by often repeated statements that have as little basis for facts as have old wives' tales. Unless somebody is available to disprove these old tales, we are in effect brainwashed just as effectively as we would be under a deluge of any propaganda.

Our magazine serves us best in this respect. It brings out the new, reminds us of the old and stimulates us to think and act. No one who attends any of our gatherings can doubt that the wheels in our head are constantly buzzing around thinking of different aspects of the shooting games and our bull sessions are not really so much bull as we find in most sports. There are too many in our gatherings who have their feet on the ground and have demonstrated their knowledge and ability to allow crackpot ideas to gain ground. This is not to say that a newcomer may not have some very excellent experience and ideas and he is always given an opportunity to present his picture. What would be nice is to have more articles and interesting photographs sent in for publication. We need this effort on the part of the shooters to make our magazine progressively more interesting and indispensable to the shooters and readers.

I enjoy reading the ads in the magazine nearly as much as the news columns and it is nice to see that more and more manufacturers are recognizing that the reading audience which the magazine is so proud of, consists not only of people who shoot, but of folks who know a great deal about shooting. To reach such a knowledgeable group of shooting enthusiasts, a manufacturer must have a good product and when he continues to advertise that product it must be pretty well accepted.

I was particularly interested in Speer's appeal to the pistol shooters with their new Target 38 cartridge. Of course, it is meant for close range practice and convenience. So often things are compromising in nature but in this product we see a high performance characteristic in both categories. I can just imagine how much fun I would have had as a younger man when I shot a pistol a good deal. In those days, I cast lead bullets by the thousands and shot them across the cellar into a bullet catcher. I don't know how many times I shot those batches of lead but I had a regular routine of casting, loading and shooting, followed by screening and re-pouring the lead from cast or jacketed bullets. The women folk couldn't keep the pictures straight on the walls and in spite of the fact that there was a pretty good patrol system maintained alongside the china cabinets and mantelpiece, every so often the vibrations caused by the detonations in the cellar brought something crashing to the floor. Now we have special cartridge cases which require no powder as the reusable plastic bullet is propelled entirely by the primer force. Incidentally, tests of this new cartridge indicated that some primers caused damage to the cases, and you certainly can't blame the Cascade folks if they recommend CCI Magnum primers.

There is certainly no doubt in my mind that a uniform well balanced primer is essential if the chain of reactions which take place is going to deliver the bullet to point of aim, shot after shot. I have a pleasant little correspondence with George Fairchild of CCI and I enjoyed hearing from him about the Eskimo to whom he had sent a sample lot of primers. I guess the Eskimo

never had it so good in two respects; first, he received a lot of primers that was greater in quantity than he had probably used throughout his life. George didn't send them to him, however, as a treasure for the balance of his life but to use in a careful test under one of the most rigorous of shooting conditions. He ascertained that this seal hunter and shooter was well qualified to make the test and that the boy from the North's complaint in general about primer failure in those sub-zero temperatures was not the result of malfunctioning which frequently occur in Arctic regions due to careless cleaning and lubricating. This fellow indicated to George that he was right on the ball in his shooting knowledge.

George was very happy when he got the report that misfires were a thing of the past when the Eskimo changed to CCI Magnum primers and I can see how he and the other Speer folks would feel happy about the whole matter because it is a very pleasant situation when laboratory tests and field tests both prove the superiority of one's product.

I don't want to give the impression that there aren't other good primers but I do want to emphatically state that improvements in primers have been made in recent years and I am just conceited enough to think that we in the benchrest game have played no little part in bringing about these improvements. It is only fair that we readers give credit to the manufacturers who advertise in our publication and support their efforts which they make towards improving our shooting game.

Shooters come in all categories and they use all sorts of arms but they have one thing in common—they enjoy the gun and the shooting products which are dependable and excel. You'll find some of them that do their shooting from their feet, their bellies or a bench or clamber over rocks or logs but when you find a guy who is shooting for the love of it, you'll generally find him to be a pretty good guy in every respect.

Cordially yours,

*Ernest Stahlheber*

## LONG RANGE CHRONOGRAPH SCREEN

(An exchange of correspondence between James Rudolph, Springfield, Va. and Fred W. Hallberg, St. Paul, Minn.)

**Inquiry from Rudolph:**

Dear Mr. Hallberg:

Some time back in Precision Shooting you mentioned using a "building paper" as made or I should say sold by SEARS for a chronograph screen. This paper was a doubling faced with aluminum.

My problem has been to design and make up a circuit for this screen. The screen would normally be used at the 300 or 500 or 1000 yard range to record time of flight. The starting screen would be close to the muzzle and this double "faced paper" screen placed at 300, 500 or 1000 yards for stopping the decade timer.

I've used wire screens, glass and a screen made of strips of foil. All these take time to make up and a lot of "field time." The use of the SEARS double faced building paper appeals to me!

Can you assist in the circuit design or could you suggest where I can inquire further?

**Reply from Hallberg:**

Dear Mr. Rudolph:

After reading your letter, I checked our local Minnesota Sears' catalog and found the following product which should work



# ANOTHER RECORD Set with CCI PRIMERS

## Uniform Dependable

**Says Arthur J. Freund, St. Louis, Missouri, two aggregate records —  
.5988 MOA for five 5-shot groups at 200 yards and a National  
Match Course aggregate of .5775 MOA for five 5-shot groups at  
each 100 and 200 yards . . .**



**PRIMERS . . . that's my choice**

**World's Largest Primer Selection for Reloading.  
Powder Actuated Tool Cartridges for Industry.  
Red-Jet Bullets for Indoor Shooting.**

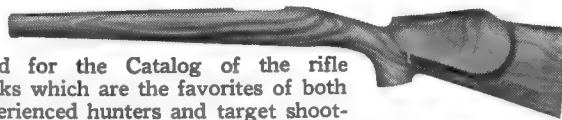
Write Dept. G-7 for Free Brochure

**Cascade Cartridge, Inc., Lewiston, Idaho**

## HUTCHING'S RIFLE STOCKS

Dealer Inquires Invited  
on printed letterhead

**L. B. ROTHSCHILD, Manufacturer, Dept. 12 4504 W. Washington Blvd., Los Angeles 16, Calif.**



Send for the Catalog of the rifle stocks which are the favorites of both experienced hunters and target shooters.

very well as a long range screen:

#64H9468C—Insulation Vapor Barrier—83 X 3 foot roll, \$6.25

It is described as "Sturdy kraft paper covered on each side with asphalt-bonded aluminum foil." This is slightly different from what SEARS sold some years ago but I can see no reason why it should not work.

The circuit would be the same as for any circuit involving a second velocity screen. In other words, the first screen placed 28 feet in front of the muzzle starts the counter chronograph recording particles of time in terms of 10 thousand to the second. Then, in a typical velocity set-up, the second screen (placed 100 feet from the first screen) shuts off the circuit leaving an accumulated time value to be read from the counter instrument. In velocity work this accumulated total time is converted into velocity by means of a scale. Now, since you are interested only in elapsed time, your reading can be direct. You have nothing to convert. This, at least, is how a Potter Chronograph is handled. The address of the Potter people can be obtained from any Blue Book or Thompson Register at almost any library. If Potter has been taken over by some other company you can still locate it in the Register.

To give you a detailed circuit would be impossible unless I knew precisely what kind of instrument you were using and then only if I was thoroughly familiar with that

particular device. But electronic velocity instruments are commonly used in industry for all kinds of control purposes such as counting, packaging and volume control, and it should not at all be difficult to find a circuit suitable to your purpose at any well equipped library. No place in Virginia is too far from Washington, D. C. and I know that that library would be able to help you. A good library will also check through periodicals for anything a person may be interested in and I know that some of the electronic magazines and also some of the Gun magazines from time to time have described velocity instruments.

This is admittedly not very much information to offer you but it is the best I can do.

MERRY  
CHRISTMAS  
and  
HAPPY  
NEW YEAR

# LAMINATED BLANKS

... for Precision Shooters!

(As formerly offered by Owens of  
Watkins Glen, N. Y.)

Length: 34 and 36 inches

Depth at butt: 7 inches

Depth at fore-end: As shown below

2 1/2"	Blank	7 ply	\$15.00
3"	Blank	10 ply	20.00
3"	Blank	20 ply	35.00
3 1/2"	Blank	12 ply	22.50
3 1/2"	Blank	25 ply	40.00
4 1/2"	Blank	13 ply	25.00

Also!

## Combination Laminated Blanks by Fajen

2 1/2"	Blank	1/16" Maple—1/28" Walnut	\$24.00
2 3/4"	Blank	1/16" Maple—1/28" Walnut	\$27.50

AND Fajens "OLYMPIC"

Free

Stock

Style



... with side thumb rest and thumb hole.  
Write for prices.

Send \$1.00 for Fajen's colorful new catalog of custom and regular style target and benchrest stocks; machine-shaped or completely finished and fitted.

**REINHART FAJEN**  
INCORPORATED  
WARSAW, MISSOURI

**T. H. BOUGHTON, Gunsmith**  
Rebarreling—Chambering—Restocking  
Bench Rest and Varmint Rifles built.  
Repair and accuracy work. NBRSA  
Member and Competitive Shooter.  
410 Stone Road Rochester 16, N. Y.

### CIVIC SERVICE

Cascade Cantridge, Inc. is like most firms in that certain civic betterment activities are financially helped.

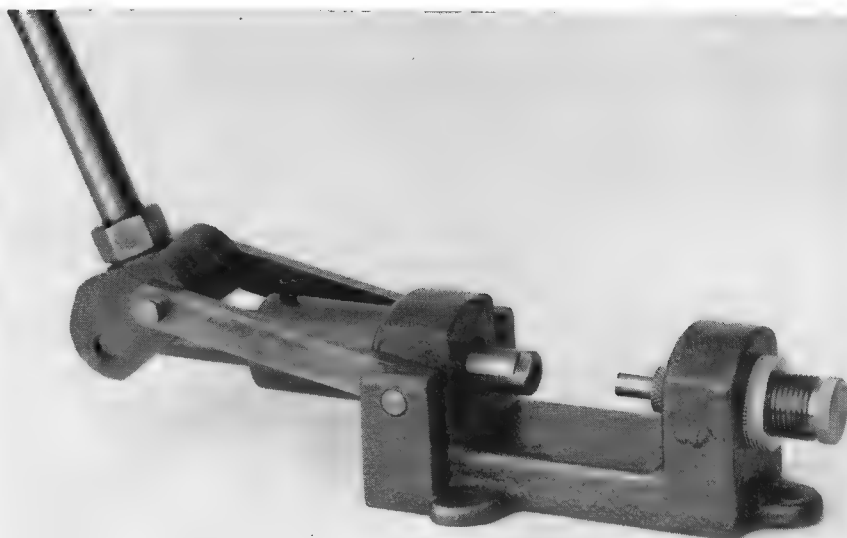
Recently, CCI agreed to underwrite 50% of the cost of providing equestrian training to the 4-H club of the Lewiston, Idaho, area. Additionally, Richard Speer, President of CCI, made his property available at no charge for this worthy group.

Why is this training helpful to young people?

- 1) The pride of accomplishment attending acquisition of skill.
- 2) Reduction of juvenile vandalism and delinquency.
- 3) Healthful training in a skill requiring self-discipline.
- 4) Acquiring a social grace.
- 5) Since dissolution of the U. S. Cavalry, no Olympic type Horsemanship is being developed in the United States. The spreading 4-H program will go far toward developing a nucleus of trained personnel to fill this void.

Most people who own or can borrow a horse never learn to ride properly. Each horse has potential that can be realized only through good horsemanship. Proper supervision and instruction can mean the difference between mediocrity and expertness.

George E. Fairchild



The new "MITY-MITE" bullet swaging press from SAS-Dies

### NEW BULLET MAKING PRESS

The new SAS-Dies Mity-Mite bullet making press is a compact tool, a scant 11 inches long overall and 3 inches high. It operates in a horizontal plane. It is designed for jacketed bullet making only and is not adaptable for cartridge reloading operations.

The little press utilizes a compound leverage system, somewhat similar but not the same as that of the big RCBS 2A press. Swaging heavy .30 caliber bullets is accomplished with very little effort.

The dies for core swaging, core seating and bullet swaging are positioned in the head of the traveling ram and the punch holder is positioned in the solid, fixed head of the press.

The punch holder is a 7/8-14 threaded unit 2 3/4 inches long, exclusive of punch locking nut. Adjustments for work length are accomplished by screwing the punch holder in or out. The punch holder is locked in position by an Allen head set screw. Four recessed holes drilled in the outer end of the punch holder permit using the shank of the Allen wrench as a lever for turning it, a desirable feature since the set screw does burr the threads a bit.

The auto-ejection system parts are housed within the ram. They appear somewhat crude but are simple and seem to do their job effectively.

The parts of the leverage system are a bit loose-jointed and permit a slight rotary movement of the ram, which does no harm. The ram appears to fit very well in the 3 1/4 inch long bore of the solid base.

The punches for the various dies and the head of the punch holder are of the "floating" type which permit positioning and locking of the punch in alignment with the die bores.

The work die inserts screw directly into the head of the traveling ram which thus serves in place of the conventional die body.

The sample press we have is fitted with SAS .30 caliber dies. Bahler Die Shop and Biehler & Astles dies (inserts) may be used with this press but they do require adapting and fitting by SAS-Dies.

In the short time we have had the sample press we have only final swaged a very few bullets, to get a little familiarity with its operation. When we have gotten better acquainted with it we will report further on its workability.

Briefly, first impressions of the press are: General appearance of the press does not shriek **QUALITY**—but neither does its price tag of \$27.50 for press alone or \$50.00 complete with set of SAS dies. It does appear to be compact, simple little work-horse press at a modest cost and we suspect it will do its job in a satisfactory manner.

Also new from SAS (and illustrated herewith) is a compact, simple, relatively inexpensive cannelluring tool for rolling cannellures in home-made or other jacketed bullets when that feature is needed or desired. It will work on any caliber bullet and is quickly and easily adjusted for position of cannellure on the bullet. From the very little we have tested the sample, this seems a practical, easy to use and satisfactory tool for its purpose.

P. H. T.

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California



A bullet cannelluring tool produced by SAS-Dies, North Bend, Oregon.

## The Winchester 52 Bolt

(Continued from Page Nine)

a suitable stone. As Howe states in "The Modern Gunsmith," the nose may be drawn out by careful peneing along the first  $\frac{3}{4}$ " of its length with a very light hammer. To avoid bending or breakage, make sure that the section being struck is solidly and evenly supported.

If the peneing is carefully done, a firing pin will stand more drawing out cold than one might suppose. For instance, after a year of use, the firing pin nose of my 52-C had four corners missing. I drew it out by peneing and refinished it. Something like a year later it was again in bad shape. I drew it out again by peneing, but this time completed the job by drawing out a little of the hardness too by heating. Through the succeeding years it has given no further trouble, nor worn perceptibly.

In adjusting the protrusion after the drawing out I hone the nose square across until it is barely flush with the farthest forward face of the bolt when the firing pin is fully seated. Any more protrusion than this might lead to marring of the rim seat on the barrel end if the trigger is snapped on an empty chamber.

In a different case I once had a Model 52-B whose pull persisted in becoming light owing to wear where the sear engaged. Finally, having wearied of refinishing this surface, I made it a little harder at this place and ended the trouble.

Another job for which it is necessary to disassemble a bolt is that of taking up headspace. My 52-C, having a carburized action, has not worn to the need of that in eight years of service, but on the soft actions of the Model 52-B I have performed this onerous task more times than I can remember.

Of the simpler ways to take up excess headspace, one is to substitute a different bolt handle and sleeve. Another is to have either the bolt shoulder or else the forward end of the bolt sleeve built up the required amount by chrome plating. The hard way is to insert a washer, which is the only way with which I have had experience.

Suppose you need .005" and insert a steel washer of that thickness. The job will not be satisfactory. The washer will turn with the bolt sleeve and soon be destroyed. To overcome turning I tried sweating the washer to the bolt shoulder, but this likewise proved unsatisfactory. After a few thousandths wear the washer would separate under pressure and curl.

Finally I devised a way that is wholly satisfactory. Initially I grind about  $\frac{1}{16}$ " off the forward end of the bolt sleeve, this permitting the use of a washer that is too thick to curl after wear, and also is thick enough to permit its being pinned to the bolt shoulder so that it cannot turn. To pin it I run a small drill through the washer and into the bolt shoulder, and use the blank end of the drill to make the pin. Next time the headspace becomes excessive I simply replace the worn washer with a thicker one. They are made of old compass saw blades, and finished to the required thickness by using Prussian blue to spot and a hand grinder to remove metal. It would do just as well, if one has ready made thin washers, to insert one between the worn thick washer and the bolt shoulder, drilling it of course for the pin.

Another fault which eventually develops in a rifle that uses a rimmed cartridge is wear where the rim seats on the end of the barrel, this having the effect of increasing the headspace. If worn badly enough to warrant attention, the end of the barrel may be refinished at the same time that excess headspace is taken up if one will go

to the trouble of stripping the action and removing the barrel. If this is done perhaps one will find that the extractor slots also will have worn to extent that they do not need to be extended. The barrel may be unscrewed with a rope and a pick handle after the stripped action has been clamped in a vise with suitable blocking to avoid damage. But be sure to tape the barrel to prevent the rope from wearing off the blue. In another way also, instead of unscrewing the barrel, the end of it may be refinished with a suitable flat drill or end mill.

There are many other jobs which the amateur can learn to do if he has a basement workshop and certain small tools. These jobs include barrel lapping, making flat springs, extractors, hammers, strikers, and sight apertures. Among the needed tools are a hand grinder, a small drill press, a vise, a torch for soldering and tempering, files, drills, taps and dies, measuring tools, and of course a good book on gunsmithing.

In hand work the file is just about the most important of all tools. With files, drills, and a hacksaw, it is possible to fashion almost any small part, but this is not done without files of suitable shapes and sizes. They may be ground to cut only on a certain side, or cut in a V-corner of some particular angle, where a file is cutting is indicated by a faint smear of Prussian blue on the surface. On small work a flat surface is had by holding the work loosely in the hand, and letting the file itself turn the piece to the angle of the stroke.

If a .22 rimfire match barrel needs setting back in the receiver, perhaps the thread will need to be extended only a couple of turns. To discover whether this could be done without use of a lathe, I set back the barrel of a Marlin rifle two turns by using files and thread gauge to extend the thread. In terms of time and trouble, I decided that this method would be the more practical of the two if one lacks a lathe whose headstock will not accept the barrel; but I strongly advise against the attempt unless one has a suitable chamber reamer, is able to disassemble both bolt and action, and has already acquired the knack of close fitting with metal working hand tools.

In the chambering of a .22 rimfire match barrel it is very important that the pilot fits. If it is .002" too small the resulting chamber may be .001" off center to the detriment of accuracy. A similar fault results if the undersize pilot has been built up by wrapping, for the lap of the wrapping material can off-set the axis half the thickness of itself. Better to make a sleeve with butted edges out of stock of suitable thickness. Another thing, as bore diameters among .22 rifles differ considerably, you will find in chambering that each bore diameter calls for a different reaming depth. So, before the reamer is in too deep, better to check very frequently with rounds than be sorry.

Finally, if one has patience, ingenuity, and the nerve to try, plus the trait of going slow and sure, he can become a competent worker on his guns by experience gained in doing first the small jobs which are within the scope of his ability. I knew a farmer who, wholly without experience in the blacksmith trade, acquired a forge and tools from a mail order house, and learned by trial and error to become the neighborhood blacksmith.

## AN IDEALLY ADMINISTERED PISTOL TOURNAMENT

by William E. Peterson

With its usual smooth celerity, the 16th Pistol Tournament of the Westchester County (N. Y.) Police Revolver & Rifle

(Continued on Page Sixteen)



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### Ideally Administered Pistol Tournament

(Continued from Page Fifteen)

League, Inc., got under way at 8 A. M. of the cool, clear week-end of October 13th and 14th, at Greenburgh, N. Y.

In many ways this tournament is unique, differing greatly from the usual NRA registered affair. These Westchester people make their own rules, some of which are interesting, as for instance the rule covering 11 shots on a target, in which the contestant is credited the score of the ten **highest** shots. As there is an assistant range officer for every six shooters, and loads are all checked, it is assumed that the extra shot belonged on some neighboring target. This is most refreshing to one who has had to fire a score over because some shooter used the wrong target, as the second score is often not as good as the first. The real reason for this Westchester regulation is to avoid the delay of firing any score over, and at the same time to work no injustice on the shooter, which would be the case if only the ten lowest shots were recorded.

As a matter of fact it is difficult in this Westchester shoot, to mistake your target, unless you are color blind. The bench areas for each shooter is painted a different color from neighboring areas, and matching color is used on the target frame and large identifying target number. Moreover, there is no 50-yard shooting, the standard police and army course being fired, at 25 and 15 yards, using a 5-inch bull with an X-ring. While it is quite possible to shoot a full 300 over this course, it is not often done, and did not happen at this shoot, although there were quite several nice 299 scores.

The outstanding feature in this tournament is the unhurried speed with which it proceeds. Although each 30-shot relay is

figured to require only 20 minutes, there is no evidence of haste, and nobody runs anywhere to keep things going on time. There is however plenty of evidence of slick and disciplined efficiency, each assistant range officer scoring only six targets, with a target boy on his heels to clip on fresh targets. Where a score is in doubt the target is instantly ripped off and carried to the rear for judging, while the match goes on with no 'time-out.' 'Alibis' are not allowed either, and your gun has to shoot or else. It is quite surprising how this regulation cuts down on misfires, making contestants ultra-careful in their reloads and in using only well tested ammo. This writer believes that the refiring of 'alibis' imposes a penalty on other shooters, since it interrupts the smooth running of the match, which is no help to scoring. In this Westchester shoot you **know** you are going to go right through with the full 30 shots in each match with no annoying checks. No 'as you were' business, either—when the routine of firing commands is started, it goes right through to the turning of the targets. All this goes a long way to explaining how this Westchester outfit, with only 24 firing positions, can handle over 1000 individual entries in only two days—1060 in this latest tournament. All 30-shot matches, too, and all strangely free from any sense of pressure due to haste.

The Westchester Association range has been much improved by closing in the firing line and to a great extent sound-proofing it. Experimenting with sound baffling is still going on with considerable success. This is important in a community where new homes are constantly creeping up on the range, a condition which has caused the demise of many ranges. However the Westchester outfit seems to have met the

situation successfully.

One other notable point—this tournament costs each entrant the princely sum of just \$2 total, no matter how many matches he fires. We don't know how they do it, but they do. Plenty of prizes, too.

In the scoring the Sing Sing Guards took the 4-man police team match with 1167 out of 1200. Fourteen teams competed. In the 2-man police team match Eastchester dropped only 11 points for a 589. The individual police match was won by Harold Davidson with a nice 299, against 154 entries broken up into six divisions including one for rookie police. The auxiliary police and civilian 4-man team match was taken by the Westchester Association team with 1157. Another 299 was shot in the auxiliary police—civilian qualification match by Clifford Truesdale, with 174 competitors, each of which received a nicely engrossed testimonial stating his rating, from Marksman to Distinguished Expert. All the above matches were .38 caliber.

In the police individual .22 match Robert Madden came through with a 299 with 23 Xs. Another 299 25-X was shot by John Colt in the civilian .22 match, while in the auxiliary police—civilian 4-man team .22 match, the Square Circle Club hung up a 1181 score, all scores being 293 or better. Miss M. Russo took the ladies match with 273, and in the 'novelty' match—mostly .45—Clif Truesdell hung up a 297 with 21X. Sergeant J. Grosse took the ranking officer's match with a 293, and in the Mallette Trophy handicap match the Dobbs Ferry 2-man team hung up a 398 score to win.

All in all, a very successful tournament, well handled under the auspices of Robert Madden, Chairman of the Association, Lieutenant De Michele, Chief Range Officer, and the ever-present and genial Lieutenant Frank Waterbury, publicity director and member of the range committee. All with the aid of many others whose efforts combined to make this tournament a yearly affair to look forward to.

### THIS AND THAT

Have some space to fill up so will just yakyak about this and that. If it ain't worth readin I won't argue the point—you'll probably be right.

Paul Middlested has had enough requests for information about front ignition loading of rifle cartridges to make him think there is enough interest in the subject to warrant the effort of preparing information on it for publication. This subject is so technical it will require time and work to prepare the information material for publication. It will also need to be so complete and detailed that it will probably be presented in a series of articles, we hope in successive issues of the magazine. We don't know when we will get these articles but when we do we will pass them along to you promptly. We anticipate that these articles will be a valuable addition to published handloading information.

Charles Gardiner, Bayside, N. Y., has very recently sent us samples of three targets (aiming marks) that he has used. All are in a relatively light blue color, which he seems to favor. One is a duplicate of the red target on the back cover of the November issue but in the blue color. Haven't had time to try these yet for seeability on the range—and wouldn't have tried it the last few days if I had had the time—we've been in deep-freeze weather. I'll report my reaction to the blue color targets after I've been able to give them a fair test.

Drove across the State to Rutland for a short call on Dan Hufnail (HUFNAIL BULLETS) a few days ago. Dan says he likes the square red targets for sighting in metallic sighted rifles at 100 yards—I don't

believe I could see that good. We had a couple of hours of heavy gabbing and I learned a new kink or two about home bullet making.

Dan has for several months been using a small lathe which he considers a pretty useful and handy piece of precision equipment for the do-it-yourself gun-nut. He has promised to do a report on it. Don't know when we'll get it but it will be along sometime.

I've got started another "Greenhorn Bulletmaker" piece but don't know when I'll ever get it finished—should be sometime before the Winter is over. Heck of it is I keep learning new things and, more important, keep finding out that some of the things I thought I knew "Ain't Necessarily So" in every case. Anyhow, it'll be just a Greenhorn's experiences and not for the experts.

As I've mentioned before, I'm sure a lot of you folks have information and experiences that would be interesting and perhaps very helpful to some of us if you would just write and tell us about them. Perhaps you've solved some little problem that is just what is bothering someone else. Perhaps you've had an experience that differs from generally accepted beliefs. At the very least, fresh ideas to think about and perhaps test keeps us alert and makes our hobby more interesting.

Creighton Audette tells us that his follow-up "Notes From The Library" will be along right soon, perhaps next month. That is something I'm looking forward to. I can't help but think that Ernest Stuhlschutter may have a point in suggesting that some little point may have been overlooked in early tests that could have affected the results obtained. The fact remains that knowing what has been done in the past is valuable if one plans any fresh attack on the same problem—can at the very least help in avoiding duplication of effort and already experienced mistakes.

### Random Shots

(Continued from Page Seven)

Russian people are different from their leaders, but we are still suspicious.

One more word—Janet Friddell shot amazingly well in the position match. She tried hard.

\*\*\*\*\*

A new P. S. subscriber is world-renowned Dieter Anschutz of Allewinderweg 21, Uln-Danau, West Germany. Herr Anschutz, everyone is interested in your new R. W. S. ammo, following Jack Foster's Cairo report in our October issue.

\*\*\*\*\*

George Stidworthy, Team Captain of the 1962 International Dewar Team, has the gratitude and admiration of all smallbore-shooting America for his fortitude and careful planning. Our shooters just weren't getting the drift of shooting on the British Nat'l Target, which was adopted for this important postal match in 1959. George had felt for some time that we were wrong in trying to shoot that small-ringed target under the poor light of early morning at Perry. Last year, when he was Team Coach, he metered it and found the light to be about 1/16 normal. So, this year when he had the chance, he "stuck his neck out" by changing the firing-time to 3:30 in the afternoon. George must have experienced some weak moments, for conditions were grim. Despite wind and rain, however, the gamble was justified by the advantage of better light than during the previous 6:00 a. m. firing. . . . George also felt that our teams have been handicapped by insufficient practice on the British Nat'l Target. It was at his suggestion that practice tar-

(Continued on Page Eighteen)

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## Random Shots

(Continued from Page Seventeen)  
getters were mailed, in advance of the Nationals, to leading metallic sight shooters. . . . As the results are now official that the U. S. Team defeated Great Britain 7741 to 7698, earning the right to be custodian of the Lord Dewar International Trophy for a year—I imagine George won't be kidded any more about his light meter!

\* \* \* \*

At the Southern Calif. Junior Rifle League tournament at Somis on December 1st, Gary Olson, 17-year-old Occidental College student, continued his winning ways. In a buffeting wind, Gary took the 4-position agg. with 384. Hi Expert Bob Randall, of the South Coast Gun Club, was second overall with 382. Tom Fraser, Oxnard Jr. R. C., was 2nd EX with 380. 2nd Master was Tom Whitaker, South Coast Gun Club—372; 3rd Master, Bill Evans, Valley Rangers—371. . . Kathy La Monte, an expert from Camp Pendleton, was High Girl with 372. Sharon Stagers took feminine honors in the Master Class—371. Susan Meek was Hi Girl in the Expert class—367, and Marilee Reich was Hi SS and Hi Girl in that class with her 369.

The team match was fired under novel conditions, with each team member firing a

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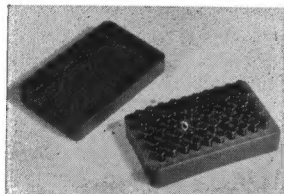
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Trophy winners at Pacific States Fall Round-Up smallbore tournament at Los Angeles, Nov. 3rd and 4th. Left to right; Round-Up champion Tom Guerin; Miss Judy Saffell, high Junior Trophy; high expert Gary Olson who outscored all the Juniors; high lady Miss Gail Cauley who broke the National Junior Any Sight Aggregate Record with 1600-132x; and National Senior Champion Henry Benso, winner of the Any Sight Aggregate.

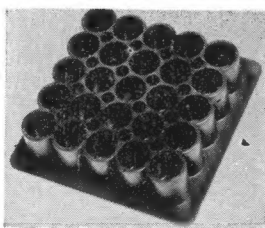
Photo by L. C. Davis



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different position. The San Gabriel Valley team came through on top with 747. Gray Olson shot the Offhand score of 176; Mike Walker fired a 184 Kneeling; Rich Hansen had 191 Sitting; and Susan Meek tallied 196 Prone. The South Coast Gun Club team was 1st in Class A with 741.

\* \* \* \*

Details are still hazy on the Capitol City smallbore tournament fired in Austin, Texas on October 13-14. We can determine, however, that George Whittington was the winner, with Raymond Sargent, runner-up. It looks like Whit on top in both sub aggregates, with the Sargents dividing second place honors—Raymond with irons, and Inez with scope. We have

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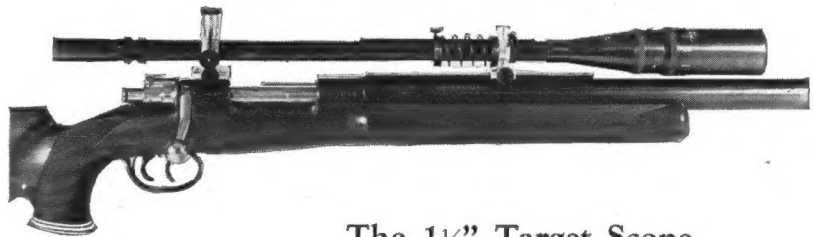
a complete listing of all place winners, but the combined prone and position matches are given by number rather than by course of fire. Scores haven't reached us yet. . . . We were interested to note that old-timer Bob Sinclair, who winters in Palm Beach and spends his summers at his ranch in Montana, was 2nd Master in match #6, whatever that was. . . . Whittington really had a field day, winning five individual matches, and four aggregates (I think). Other match winners were George T. Martin, Raymond Sargent, and Oscar Morris. . . . There were 68 competitors. . . . William M. Woodruff, Ft. Hood, was winner of the ISU position match. Donald J. Bickford, Bergstrom AFB, took the NRA position match. The Ft. Hood team was high in the 4-man team position, followed by the Austin Junior Rifle Club. The 4-man team prone match went to Carswell AFB, El Paso. Austin Rifle Club was second. The highlight of the team matches was probably the 2-man team prone. It was won by the sharpshooter team of Gil Petri and Ray Morley, both of Dallas. Petri, Sec. of the Texas State Assoc., was firing his second smallbore tournament. Inez and Raymond, shooting under the banner of the Western Wildcats, were second. . . . Emil Liszal, of Austin, won match #19, which I would assume is the Prone Team Fund Agg. . . . Sorry we can't do better on this one.

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Before the Yuletide spirit of good will toward men dims into worry over holiday bills, let's take a glimpse at some assorted New Year's resolutions:

**RESOLVED:** Not to rush off that final shot, especially when a National Agg. Record is at stake—Herb Hollister. . . . To get out of that second-place rut, and to steer clear of steel braces—George Stidworthy. . . . To build a rifle as beautiful as it is accurate—Pres Kendall. . . . To fire all defective cartridges into the bank—George Whittington. . . . To stay out of the hospital—Ollie Lauderman—also Charlie Whipple and John Moschkau. . . . To ascertain that all rifles are unloaded before weighing triggers; also, resolved not to hold up the line (for 1½ hours) during early morning calm for the purpose of weighing same—a certain Official Referee carrying one of those controversial trigger weights. . . . To order medals prior to each tournament—a Tournament Sponsor. . . . To have someone on hand to issue squadding tickets early enough for firing to commence at the scheduled hour—another Tournament Sponsor. . . . To keep contact lenses out of reach of one Weimaraner dog, named Gcharm—

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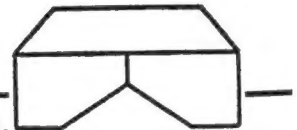
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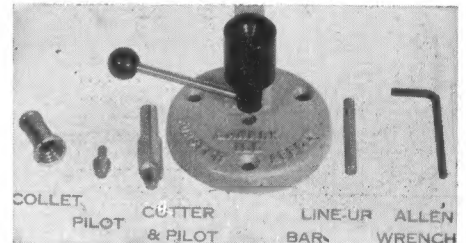


Vic Auer. . . . To have scope blocks tightened at all times—Bob Boydston. . . . To fire as many possibles with metallic sights as with scope—Hank Benson. . . . To cease shooting 36X 399s—Jim Williams. . . . To recover from that dread disease, "buck fever"—an International team member. . . . To be present both days of a 2-day assignment, in case a National Record should be fired—another Official Referee. . . . To list official bulletin scores by name, rather than by number, and to specify the course of fire for each match, so that they may be easily read and understood—several Tournament Sponsors. . . . Resolved: Not to interfere with a highly-respected former Nat'l Woman's Champion's firing during a tournament and accuse her of an illegal position because her little finger might accidentally touch her shooting coat, realizing with remorse that she could receive no artificial support from one finger and resolving to read the smallbore rule book more carefully—a third Official Referee. . . . To discontinue cross-firing, especially on Betty's target, and to supply myself with sufficient sighting ammo before taking my place on the line—Emmett Duncan. . . . To learn to count my shots to avoid disqualification—Walt Womack. . . . To score my enemies' targets in like manner as my friends'—a Scorer. . . . Resolved: not to pack my bug bombs in with my special ammo—Ed Summers. . . . To stay out of the bathtub, thereby avoiding broken ribs which prevent me from shooting—Archie Bell. . . . To be punctual at all official functions—a new NRA Director. . . . To find more time for shooting in 1963; also, to resist the rifle coach's efforts to have my son practice 19 hrs. per week until such time as this son's college grades are above reproach—Harlon Carter. . . . To select one lot of ammo for one rifle, and stay with them. (Variety isn't always the best way).—Bill Grater. . . . Resolved: not to let square-dancing take precedence over our shooting—Ruth and Freeman Morgan. . . . This could go on and on, but I think it appropriate to end this list with my own New Year's resolution: Resolved; to concentrate more on my own shooting than on "scoops" in the realm of public relations!

**HAPPY NEW YEAR TO ALL OF YOU PRECISION SHOOTERS—AND, GOOD SHOOTING IN 1963!**

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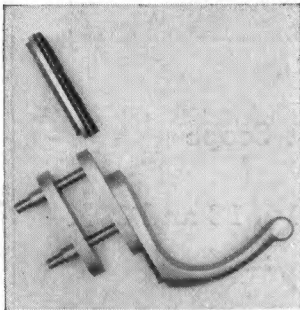
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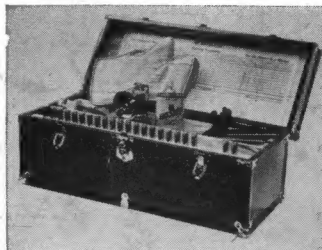
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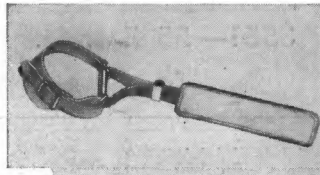
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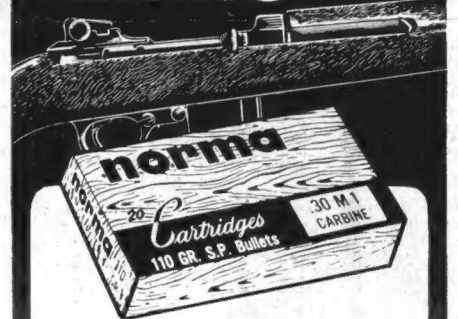
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